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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2007–0055; Directorate Identifier 2007–SW–12–AD; Amendment 39–15237; AD 2007–22–01]

RIN 2120–AA64

Airworthiness Directives; Bell Helicopter Textron Canada Model 206A and 206B Series Helicopters

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for Bell Helicopter Textron Canada (Bell) Model 206A and 206B series helicopters. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority to identify and correct an unsafe condition on an aviation product. The aviation authority of Canada, with which we have a bilateral agreement, states in the MCAI:

> Transportation Safety Board of Canada (TSB) investigation into an accident involving Model 206B has revealed that the Spindle repaired by Cadorath Aerospace Inc., failed during flight resulting in loss of control of the helicopter. A similar repair was performed by H–S Tools & Parts Inc.

This AD requires actions that are intended to address this unsafe condition related to certain repaired transmission pylon support spindles.

DATES: This AD becomes effective November 6, 2007.

We must receive comments on this AD by December 21, 2007.

ADDRESSES: You may send comments by any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov*. Follow the instructions for submitting comments.
- *Fax:* 202–493–2251.
- *Mail:* U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590.
- *Hand Delivery:* U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket on the Internet at *http://www.regulations.gov*; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647–5527) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Sharon Miles, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Regulations and Guidance Group, Fort Worth, Texas 76193–0111, telephone (817) 222–5122, fax (817) 222–5961.

SUPPLEMENTARY INFORMATION:

Streamlined Issuance of AD

The FAA is implementing a new process for streamlining the issuance of ADs related to MCAI. This streamlined process will allow us to adopt MCAI safety requirements in a more efficient manner and will reduce safety risks to the public. This process continues to follow all FAA AD issuance processes to meet legal, economic, Administrative Procedure Act, and **Federal Register** requirements. We also continue to meet our technical decision-making responsibilities to identify and correct unsafe conditions on U.S.-certificated products.

This AD references the MCAI and related service information that we considered in forming the engineering basis to correct the unsafe condition. The AD contains text copied from the MCAI and for this reason might not follow our plain language principles.

Discussion

Transport Canada, which is the aviation authority for Canada, has issued Airworthiness Directive No. CF–2007–02R1, dated August 23, 2007 (referred to after this as the MCAI), to correct an unsafe condition for the specified products. The MCAI states:

> Transportation Safety Board of Canada (TSB) investigation into an accident involving Model 206B has revealed that the Spindle repaired by Cadorath Aerospace Inc., failed during flight resulting in loss of control of the helicopter. A similar repair was performed by H–S Tools & Parts Inc.

All serial-numbered spindles that were repaired by Cadorath Aerospace, Inc., and H–S Tools & Parts, Inc., have reduced strength which could result in failure of the spindle and create an unsafe condition.

You may obtain further information by examining the MCAI in the AD docket.

FAA's Determination and Requirements of This AD

This product has been approved by the aviation authority of Canada, and is approved for operation in the United States. Pursuant to our bilateral agreement with this State of Design Authority, we have been notified of the unsafe condition described in the MCAI and any service information. We are issuing this AD because we evaluated all pertinent information and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

Differences Between the AD and the MCAI or Service Information

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow FAA policies. Any such differences are highlighted in the ''FAA AD Differences'' section in the AD.

FAA's Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because investigation of a Bell Model 206B fatal accident in Canada revealed that the pylon support spindle repaired by Cadorath Aerospace, Inc. failed during flight resulting in loss of control of the helicopter. We have determined that all spindles repaired by the same company and H–S Tools & Parts, Inc., which performed a similar repair, must be replaced within a very short time interval. Therefore, we have determined that notice and opportunity for public comment before issuing this AD are impracticable and that good cause exists for making this amendment effective in fewer than 30 days.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and opportunity for public comment. We invite you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under the **ADDRESSES** section. Include ''Docket No. FAA–2007–0055; Directorate Identifier 2007–SW–12–AD'' at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

We will post all comments we receive, without change, to *http://regulations.gov*, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

Costs of Compliance

We estimate that this AD will affect 87 helicopters of U.S. registry. We also estimate that it will take about 8 work-hours per helicopter to comply with this AD. The average labor rate is $80 per work-hour. Required parts will cost about $2111 per helicopter. Based on these figures, we estimate the cost of this AD to the U.S. operators to be $239,337 or $2751 per helicopter.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. ''Subtitle VII: Aviation Programs,'' describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in ''Subtitle VII, Part A, Subpart III, Section 44701: General requirements.'' Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

1. Is not a ''significant regulatory action'' under Executive Order 12866;

2. Is not a ''significant rule'' under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and

3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

■ Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39—AIRWORTHINESS DIRECTIVES

■ 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

■ 2. The FAA amends § 39.13 by adding the following new AD: 2007–22–01: Amendment 39–15237. Docket No. FAA–2007–0055; Directorate Identifier 2007–SW–12–AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective November 6, 2007.

Other Affected ADs

(b) None.

Applicability

(c) This AD applies to Bell Helicopter Textron Canada (BHTC) Model 206A and 206B series helicopters, certificated in any category, that have the following serial numbered transmission pylon support spindle (spindle), part number (P/N) 206–031–554, installed:

Spindles repaired by Cadorath Aerospace Inc., B12–11568, B12–12244, B12–12260, B12–12647, B12–12676, B12–12847, B12–13292, B12–14395, B12–15750, B12–17149, B12–17266, B12–1828, B12–18649, B12–19330, B12–19381, B12–20668, B12–2224, B12–2286, B12–3595, B12–3774, B12–3808, B12–5171, B12–757, B12–8053, B12–8605, B12–932, B–21223, B–21297, B22005, B22515, B–22558, CAI3852, CAI3853, EA287, EA318, EA322, EA393, EA751, EA–761, MW546, RE1044, RE113, or RE743.

Spindles repaired by H–S Tools & Parts Inc., B12–11127, B12–12883, B12–13158, B12–13535, B12–13545, B12–13593, B12–13657, B12–13716, B12–14061, B12–14078, B12–15131, B12–15908, B12–16078, B120–16267, B12–16825, B12–16867, B12–17149, B12–17266, B12–18157, B12–18163, 12–18456, B12–19450, B12–21573, B12–3106, B12–605, B12–7627, B–22385, EA–391, MW445, MW506, MW546, RE278, RE329, or RE582.

Reason

(d) The mandatory continued airworthiness information (MCAI) states:

Transportation Safety Board of Canada (TSB) investigation into an accident involving Model 206B has revealed that the Spindle repaired by Cadorath Aerospace Inc., failed during flight resulting in loss of control of the helicopter. A similar repair was performed by H–S Tools & Parts Inc.

All serial-numbered spindles that were repaired by Cadorath Aerospace, Inc., and by H–S Tools & Parts, Inc., have reduced strength which could result in failure of the spindle and create an unsafe condition.

Actions and Compliance

(e) Within the next 16 hours time-in-service, unless already done, replace the spindle with an airworthy spindle that does not contain a serial number listed in the applicability of this AD.

Differences Between FAA AD and the MCAI

(f) None.

Subject

(g) Air Transport Association of America (ATA) Code 6320: Main Rotor Gearbox.

Other Information

(h) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, Safety Management Group, Rotorcraft Directorate, FAA, has the authority to approve AMOCs for this AD, if

requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Sharon Miles, Aviation Safety Engineer, Fort Worth, Texas 76193–0111, telephone (817) 222–5122, fax (817) 222–5961.

(2) Airworthy Product: Use only FAA-approved corrective actions. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent) if that State of Design has an appropriate bilateral agreement with the United States. You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act, the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120–0056.

Related Information

(i) Mandatory Continuing Airworthiness Information (MCAI) Transport Canada Airworthiness Directive CF–2007–02R1, dated August 23, 2007, contains related information.

Issued in Fort Worth, Texas, on October 11, 2007.

David A. Downey,

Manager, Rotorcraft Directorate, Aircraft Certification Service.

[FR Doc. E7–20681 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF THE INTERIOR

Office of Surface Mining Reclamation and Enforcement

30 CFR Part 917

[KY–251–FOR]

Kentucky Regulatory Program

AGENCY: Office of Surface Mining Reclamation and Enforcement (OSM), Interior.

ACTION: Final rule; approval of amendment.

SUMMARY: We are announcing the approval of an amendment to the Kentucky Abandoned Mine Land Reclamation (AMLR) Plan under the Surface Mining Control and Reclamation Act of 1977 (SMCRA or the Act). The amendment makes several revisions to Kentucky's AMLR Plan and is intended to update and improve the effectiveness of the AMLR Plan. Kentucky submitted the amendment in response to the passage of the Tax Relief and Health Care Act of 2006 (SMCRA amendments of 2006).

EFFECTIVE DATE: October 22, 2007.

FOR FURTHER INFORMATION CONTACT: Joe Blackburn, Acting Field Office Director, Telephone: (859) 260–8400. Telefax number: (859) 260–8410.

I. Background on the Kentucky Abandoned Mine Land Reclamation Plan
II. Submission of the Amendment
III. OSM's Findings
IV. Summary and Disposition of Comments
V. OSM's Decision
VI. Procedural Determinations

I. Background on the Kentucky Abandoned Mine Land Reclamation Plan

The Kentucky Abandoned Mine Land (AML) Reclamation Plan was established by Title IV of SMCRA (30 U.S.C. 1201 *et seq.*) in response to concerns over extensive environmental damage caused by past coal mining activities. The program is funded by a reclamation fee collected on each ton of coal mined to finance the reclamation of abandoned coal mines and for other authorized activities. Section 405 of the Act allows States and Indian Tribes to assume exclusive responsibility for reclamation activity within the State or on Indian lands if they develop and submit to the Secretary of the Interior (Secretary) for approval, a program (often referred to as a plan) for the reclamation of abandoned coal mines. On the basis of these criteria, the Secretary approved the Kentucky AMLR Plan on May 18, 1982. You can find background information on the Plan, including the Secretary's findings, the disposition of comments, and the approval of the Plan in the May 18, 1982, **Federal Register** (47 FR 21435). You can find later actions concerning the Kentucky AMLR Plan and amendments to the Plan at 30 CFR 917.20 and 917.21.

II. Submission of the Amendment

By letter dated April 23, 2007, Kentucky sent us a proposed amendment to its AMLR Plan under SMCRA (30 U.S.C. 1201 *et seq.*) at its own initiative ([KY–251–FOR], Administrative Record No. K–74). With the passage of the Tax Relief and Health Care Act of 2006, Pub. L. 109–432 which included amendments to SMCRA, the Kentucky General Assembly enacted corresponding amendments to the Kentucky Revised Statutes at Chapter 350. It is these statutory changes that Kentucky has submitted as an amendment to its AMLR Plan.

Typically, States do not request that OSM accept changes to AML statutes or regulations as amendments to AMLR Plan, which is a narrative document that usually is not in the form of a statute or regulation. However, there is no provision in SMCRA or the Federal regulations governing submission and approval of AMLR Plans and amendments thereto that prohibits a State from including statutes or regulations within its AMLR Plan. Therefore, when we approve a change to a statutory provision in this rulemaking, we mean that we are approving that provision as an amendment to the AMLR Plan. However, for the sake of clarity and ease of reference, we recommend that Kentucky submit changes to its actual AMLR Plan narrative document that are consistent with these statutory amendments. The full text of the amendment is available for you to read at the location listed above under **ADDRESSES**. A summary of the proposed changes follows.

Kentucky enacted Senate Bill 187 on February 21, 2007, to create a new section of the Kentucky Revised Statutes (KRS) Chapter 350 to allow the Environmental and Public Protection Cabinet (Cabinet) to do the following: expend for reclamation projects which are of a lower priority, if done in conjunction with a project assigned a higher priority; amend KRS 350.550 to delete use of AML funds for studies conducted by State agencies; amend KRS 350.555 to allow for expenditure on a reclamation project located adjacent to one already assigned a priority by the cabinet; delete research and development, work on public facilities, and development of publicly owned lands as a priority; amend KRS 350.560 to delete restriction on the use of funds allocated to the Commonwealth by the Secretary of the Interior; amend KRS 350.575 to prohibit a lien filed against a property owner who did not consent to mining operations requiring reclamation; and to amend KRS 350.597 to retain up to 30% of the funds allocated to Kentucky in a special trust fund.

III. OSM's Findings

Following are the findings we made concerning the amendment. OSM's standard for comparison of State AMLR amendments with SMCRA and the Federal regulations is found in Directive STP–1, Appendix 11. This policy provides that ''in accordance with 30 CFR 884.14(a), the proposed plan must meet all applicable requirements of the Federal statute and rules. That is, a State's statutes, rules, policy statements, procedures, and similar materials must compare, altogether, with applicable requirements of the Federal statute and rules, to ensure that the State's plan, as a whole, meets all Federal requirements.'' In addition, any amendments to AMLR plans must be approved in accordance with the

procedures set out in 30 CFR 884.14. Any revisions that we do not specifically discuss below concern nonsubstantive wording or editorial changes. Kentucky's proposed changes occur at KRS Chapter 350.

KRS 350 New Section 1. Kentucky is authorizing the Cabinet to use monies available in grants made annually to the Commonwealth for the reclamation of prioritized eligible land and water. Before the expenditures can occur, the reclamation must be done in conjunction with the expenditure of funds for reclamation projects as prioritized in KRS Chapter 350, Section 3, regardless of when the higher priority project was initially funded.

The new proposed Section 1 is no less stringent than the SMCRA amendments of 2006 that modified sections 403(a)(1)(B) and (a)(2)(B), 30 U.S.C. 1233(a)(1)(B) and (a)(2)(B). Therefore, the new Section 1 is approved.

KRS 350.550 Section 2(4). Subsection (d) is deleted which allows monies in the Abandoned Mine Reclamation Fund (Fund) to be used for studies by State agencies conducted for purposes of the AML program. Subsequent subsections are relettered for consistency. The deletion is no less stringent than the deletion of the same provision at Section 401(c)(6) of SMCRA, 30 U.S.C. 1231(c)(6), resulting from the SMCRA amendments of 2006. Therefore, the deletion of subsection (d) is approved.

KRS 350.555 Section 3. This Section lists the priorities for expenditures of monies from the Fund. Subsections (1) and (2), which specify priorities 1 and 2 respectively, are amended by adding a new (b) the restoration of land and water resources and the environment that have been degraded by the adverse effects of coal mining practices and situated adjacent to a site that has been or will be remediated under this subsection. Priority (1), as revised, is the protection of public health, safety, and property from extreme danger of adverse effects of coal mining practices, and the new provisions at (b). Priority (2), as revised, is the protection of public health and safety from the adverse effects of coal mining practices, and the new provisions at (b). Subsections (4) through (6) are deleted. They represent priorities 4 through 6 which include research and demonstration projects; protection, repair, replacement, construction, or enhancement of public facilities adversely affected by coal mining practices; and development of publicly-owned land adversely affected by coal mining practices.

We are approving the revisions Kentucky proposes because they are substantively identical to, and therefore no less stringent than the portion of the SMCRA amendments of 2006 that modified Sections 403(a)(1)(B) and (2)(B) of SMCRA, 30 U.S.C. 1233(a)(1)(B) and (a)(2)(B).

The deletions of subsections (4) through (6) are identical to the deletions of subsections 403(a)(4), (a)(5) and (a)(6) of SMCRA, 30 U.S.C. 1233(a)(4), (a)(5) and (a)(6). These Federal deletions were included in the SMCRA amendments of 2006. Therefore, the deletions of subsections (4) through (6) of Section 3 of KRS 350.555 are approved.

350.560 Section 4(4). The 30 percent restriction is removed on the amount of funds allocated to Kentucky through annual grants that can be used to protect, repair, replace, construct, or enhance water supply facilities adversely affected by coal mining practices.

The deletion of the 30 percent restriction is no less stringent than the deletion of the same provision at section 403(b)(1) of SMCRA, 30 U.S.C. 1233(b)(1), resulting from the SMCRA amendments of 2006. Therefore, the deletion is approved.

KRS 350.575(1). The lien provisions are revised to prohibit the filing of a lien against the property of any person who neither consented to, participated in, or exercised control over the mining operation that necessitated the reclamation. The limitation of the lien prohibition to property owners who owned the surface prior to May 2, 1977, is removed.

The deletion of the lien prohibition limitation is no less stringent than the deletion of the same provision at Section 408(a) of SMCRA, 30 U.S.C. 1238(a), resulting from the SMCRA amendments of 2006. Therefore, the deletion is approved.

KRS 350.597. Subsection (1) is revised to increase the trust fund receipt and retention percentage from the total annual grant from 10 percent to 30 percent pursuant to the SMCRA amendments of 2006. Subsection (2) is revised to authorize expenditures from the trust fund for only acid mine drainage abatement and treatment per Section 402(g)(6). Authorization for expenditures for the priorities specified in KRS 350.555 after September 30, 1995, is removed.

We are approving the revisions Kentucky proposes because they limit the set aside to a maximum of 30 percent rather than mandate that 30 percent be set aside. In doing so, we note that Kentucky will be receiving funds from the U.S. Treasury under Section 411(h) in addition to the funds identified in Section 402(g)(6)(A) of SMCRA, 30 U.S.C. 1232(g)(6)(A). The question of whether U.S. Treasury funds under Section 411(h) may be used for the 30 percent set aside is being addressed separately and our approval of these revisions should not be viewed as addressing that issue one way or the other. Therefore, there is the possibility that Kentucky will not be authorized to set aside a full 30 percent of total funds received each year.

IV. Summary and Disposition of Comments

Public Comments

We announced receipt of the proposed amendment in the June 15, 2007, **Federal Register** (72 FR 33177), and in the same document invited public comment and provided an opportunity for a public hearing on the adequacy of the proposed amendment. The public comment period closed on July 16, 2007. We received one comment from the Kentucky Resources Council, Inc. who had no objection to approval of the proposed amendment. Because no one requested an opportunity to speak, a hearing was not held.

Federal Agency Comments

According to 30 CFR 884.14(a)(2), on June 26, 2007, we solicited comments on this AMLR Plan amendment from various Federal agencies with an actual or potential interest in the Kentucky AMLR Plan (Administrative Record No. KY–74). We received no comments.

State Agency Comments

On June 26, 2007, we also solicited comments from the Kentucky State Historic Preservation Office (Administrative Record No. KY–74) on the amendment submitted on April 23, 2007. Kentucky's State Historic Preservation Office responded stating that as the amendment has no bearing on the treatment of archaeological sites or historic structures, it has no comment.

V. OSM's Decision

Based on the above findings, we are approving the Kentucky AMLR Plan amendment as submitted by Kentucky on April 23, 2007.

To implement this decision, we are amending the Federal regulations at 30 CFR part 917 which codify decisions concerning the Kentucky AMLR Plan. We find that good cause exists under 5 U.S.C. 553(d)(3) to make this final rule effective immediately.

VI. Procedural Determinations

Executive Order 12630—Takings

This rule does not have takings implications. This determination is based on the analysis performed for the counterpart Federal regulation.

Executive Order 12866—Regulatory Planning and Review

This rule is exempted from review by the Office of Management and Budget under Executive Order 12866.

Executive Order 12988—Civil Justice Reform

The Department of the Interior has conducted the reviews required by section 3 of Executive Order 12988 and has determined that this rule meets the applicable standards of subsections (a) and (b) of that section. However, these standards are not applicable to the actual language of State or Tribal abandoned mine land reclamation plans and plan amendments because each program is drafted and promulgated by a specific State or Tribe, not by OSM. Decisions on proposed abandoned mine land reclamation plans and plan amendments submitted by a State or Tribe are based solely on a determination of whether the submittal meets the requirements of Title IV of SMCRA (30 U.S.C. 1231–1243) and 30 CFR part 884 of the Federal Regulations.

Executive Order 13132—Federalism

This rule does not have Federalism implications. SMCRA delineates the roles of the Federal and State governments with regard to the regulation of surface coal mining and reclamation operations. One of the purposes of SMCRA is to ''establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations.'' Section 405(d) of SMCRA requires that State abandoned mine land reclamation programs be in compliance with the procedures, guidelines, and requirements established under SMCRA.

Executive Order 13175—Consultation and Coordination With Indian Tribal Governments

In accordance with Executive Order 13175, we have evaluated the potential effects of this rule on Federally-recognized Indian tribes and have determined that the rule does not have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes. The rule does not involve or affect Indian Tribes in any way.

Executive Order 13211—Regulations That Significantly Affect the Supply, Distribution, or Use of Energy

On May 18, 2001, the President issued Executive Order 13211 which requires agencies to prepare a Statement of Energy Effects for a rule that is (1) considered significant under Executive Order 12866, and (2) likely to have a significant adverse effect on the supply, distribution, or use of energy. Because this rule is exempt from review under Executive Order 12866 and is not expected to have a significant adverse effect on the supply, distribution, or use of energy, a Statement of Energy Effects is not required.

National Environmental Policy Act

No environmental impact statement is required for this rule because agency decisions on proposed State and Tribal abandoned mine land reclamation plans and revisions thereof are categorically excluded from compliance with the National Environmental Policy Act (42 U.S.C. 4332 *et seq.*) by the Manual of the Department of the Interior (516 DM 6, appendix 8, paragraph 8.4B(29)).

Paperwork Reduction Act

This rule does not contain information collection requirements that require approval by OMB under the Paperwork Reduction Act (44 U.S.C. 3507 *et seq.*).

Regulatory Flexibility Act

The Department of the Interior certifies that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). The State submittal, which is the subject of this rule, is based upon counterpart Federal regulations for which an economic analysis was prepared and certification made that such regulations would not have a significant economic effect upon a substantial number of small entities. In making the determination as to whether this rule would have a significant economic impact, the Department relied upon the data and assumptions for the counterpart Federal regulations.

Small Business Regulatory Enforcement Fairness Act

This rule is not a major rule under 5 U.S.C. 804(2), the Small Business Regulatory Enforcement Fairness Act. This rule: (a) Does not have an annual effect on the economy of $100 million; (b) Will not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; and (c) Does not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises. This determination is based upon the fact that the State submittal which is the subject of this rule is based upon counterpart Federal regulations for which an analysis was prepared and a determination made that the Federal regulation was not considered a major rule.

Unfunded Mandates

This rule will not impose an unfunded mandate on State, local, or tribal governments or the private sector of $100 million or more in any given year. This determination is based upon the fact that the State submittal, which is the subject of this rule, is based upon counterpart Federal regulations for which an analysis was prepared and a determination made that the Federal regulation did not impose an unfunded mandate.

List of Subjects in 30 CFR Part 917

Intergovernmental relations, Surface mining, Underground mining.

Dated: August 27, 2007.

Hugh V. Weaver,

Acting Regional Director, Appalachian Region.

■ For the reasons set out in the preamble, 30 CFR part 917 is amended as set forth below:

PART 917—KENTUCKY

■ 1. The authority citation for part 917 continues to read as follows:

Authority: 30 U.S.C. 1201 *et seq.*

■ 2. Section 917.21 is amended by adding paragraph (e) to read as follows:

§ 917.21 Approval of Kentucky abandoned mine land reclamation plan amendments.

* * * * *

(e) The Kentucky AMLR Plan amendment submitted on April 23, 2007, and consisting of revisions to KRS Chapter 350 that correspond to changes to the Federal Surface Mining Control and Reclamation Act of 1977 resulting from the Relief and Health Care Act of 2006, is approved.

[FR Doc. E7–20700 Filed 10–19–07; 8:45 am]

BILLING CODE 4310–05–P

DEPARTMENT OF THE TREASURY

Fiscal Service

31 CFR Part 285

RIN 1510–AB16

Offset of Tax Refund Payments To Collect Past-Due Support

AGENCY: Financial Management Service, Fiscal Service, Treasury.

ACTION: Final rule.

SUMMARY: The Financial Management Service, Department of the Treasury, is amending its regulations governing the offset of federal tax refund payments to collect past-due child support obligations. We are removing the definition of *Qualified child* due to a change in the statutory definition on which it is based enacted as part of the Deficit Reduction Act of 2005. This statutory change will allow the tax refund offset program to collect past-due child support on behalf of children who are no longer minors. We are also amending the description of past-due support obligations that qualify for the tax refund offset by removing the requirement that the support be owed to or on behalf of a qualified child.

DATES: Effective October 22, 2007.

ADDRESSES: You may inspect and copy this rule at: Treasury Department Library, Freedom of Information Act (FOIA) Collection, Room 1428, Main Treasury Building, 1500 Pennsylvania Avenue, NW., Washington, DC 20220. Before visiting, you must call (202) 622–0990 for an appointment.

FOR FURTHER INFORMATION CONTACT: Thomas Dungan, Policy Analyst, at (202 847–6660 or at *tom.dungan@fms.treas.gov* or Ellen Neubauer, Senior Attorney, at (202) 874–6680 or at *ellen.neubauer@fms.treas.gov.*

SUPPLEMENTARY INFORMATION:

I. Background

The Deficit Reduction Act of 2005, Public Law 109–171, amended the Social Security Act to remove a restriction on the collection of past-due support obligations by tax refund offset. Prior to this change, tax refund offset to collect past-due support obligations being collected by States on behalf of an individual was only available if the support was due to or on behalf of a qualified child (a child who is a minor or who, while a minor, was determined to be disabled). The amendment to the law allows for the collection of past-due support by tax refund offset on behalf of individuals who were owed child support as minors but reached the age of majority without having collected the full support amount owed to them.

The changes to this rule conform to the statutory change by removing the definition of *Qualified child* and by deleting the requirement that past-due support be owed to or on behalf of a qualified child to be eligible for collection by tax refund offset.

II. Regulatory Analyses

Administrative Procedures Act

This rule is being issued as a final rule without prior public notice and comment because the changes to the rule are being made to conform to statutory requirements. Under 5 U.S.C. 553(b), good cause exists to determine that notice and comment rulemaking is unnecessary and contrary to the public interest. The amendments made by this rule merely mirror amendments already enacted into law. Further delay in making these amendments would create an inconsistency between the law and the regulations and would cause confusion.

Regulatory Planning and Review

The final rule does not meet the criteria for a ''significant regulatory action'' as defined in Executive Order 12866. Therefore, the regulatory review procedures contained therein do not apply.

Regulatory Flexibility Act Analysis

Because no notice of proposed rulemaking is required, the provisions of the Regulatory Flexibility Act (5 U.S.C. *et seq.*) do not apply.

Paperwork Reduction Act

This rule contains no new collections of information. Therefore, the Paperwork Reduction Act does not apply.

List of Subjects in 31 CFR Part 285

Administrative practice and procedure, Child support, Child welfare, Claims, Debts, Privacy, Taxes.

Authority and Issuance

■ For the reasons set forth in the preamble, we are amending part 285 of title 31, as follows:

PART 285—DEBT COLLECTION AUTHORITIES UNDER THE DEBT COLLECTION IMPROVEMENT ACT OF 1996

■ 1. The authority citation for part 285 continues to read as follows:

Authority: 5 U.S.C. 5514; 26 U.S.C. 6402; 31 U.S.C. 321, 31 U.S.C. 3701; 31 U.S.C. 3716; 42 U.S.C. 664; E.O. 13019, 61 FR 51763, 3 CFR, 1996 Comp., p. 216; Public Law 109–171.

■ 2. Amend § 285.3 by removing from paragraph (a) the definition of ''Qualified child'' and by revising paragraph (c)(1)(i)(B) to read as follows:

§ 285.3 Offset of tax refund payments to collect past-due support.

* * * * *

(c) * * *

(1) * * *

(i) * * *

(B) A State agency is providing support collection services under 42 U.S.C. 654(4) and the amount of the past-due support is not less than $500.00; and

* * * * *

Dated: October 9, 2007.

Kenneth R. Papaj,

Commissioner.

[FR Doc. 07–5175 Filed 10–19–07; 8:45 am]

BILLING CODE 4810–39–M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 97

[EPA–R05–OAR–2007–0140; FRL–8481–4]

Limited Approval of Implementation Plans of Indiana: Clean Air Interstate Rule

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct final rule.

SUMMARY: EPA is promulgating a limited approval of a revision to the Indiana State Implementation Plan (SIP) submitted on February 28, 2007. This revision incorporates provisions related to the implementation of EPA's Clean Air Interstate Rule (CAIR), promulgated on May 12, 2005, and subsequently revised on April 28, 2006, and December 13, 2006, and the CAIR Federal Implementation Plans (CAIR FIP) concerning SO_2, NO_X annual, and NO_X ozone season emissions for the State of Indiana, promulgated on April 28, 2006, and subsequently revised December 13, 2006. EPA is not making any changes to the CAIR FIP. It is, however, to the extent EPA approves Indiana's SIP revision, amending the appropriate appendices in the CAIR FIP trading rules simply to note that approval.

On September 20, 2007, Indiana requested that EPA act on a portion of the February 28, 2007, submittal as an ''abbreviated SIP.'' Consequently, EPA is approving this abbreviated SIP revision, which addresses: The

applicability provisions for the NO_X ozone season trading program and supporting definitions of terms; the methodology to be used to allocate NO_X annual and ozone season NO_X allowances and supporting definitions of terms; the compliance supplement pool (CSP) provisions for the NO_X annual trading program; and provisions for SO_2 and NO_X opt-in units, all under the CAIR FIP.

DATES: This direct final rule is effective *December 21, 2007* without further notice, unless EPA receives adverse comment by *November 21, 2007*. If EPA receives such comments, it will publish a timely withdrawal of the direct final rule in the **Federal Register** and inform the public that the rule will not take effect.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–R05–OAR–2007–0140, by one of the following methods:

1. *www.regulations.gov*: Follow the on-line instructions for submitting comments.
2. *E-mail: mooney.john@epa.gov*.
3. *Fax:* (312) 886–5824.
4. *Mail:* John M. Mooney, Chief, Criteria Pollutant Section, Air Programs Branch (AR–18J), U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, Illinois 60604.
5. *Hand Delivery:* John M. Mooney, Chief, Criteria Pollutant Section, Air Programs Branch (AR–18J), U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, Illinois 60604. Such deliveries are only accepted during the Regional Office normal hours of operation, and special arrangements should be made for deliveries of boxed information. The Regional Office official hours of business are Monday through Friday, 8:30 a.m. to 4:30 p.m. excluding Federal holidays.

Instructions: Direct your comments to Docket ID No. EPA–R05–OAR–2007–0140. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit through *www.regulations.gov* or e-mail, information that you consider to be CBI or otherwise protected. The *www.regulations.gov* Web site is an ''anonymous access'' system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *www.regulations.gov*, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters and any form of encryption and should be free of any defects or viruses. For additional information about EPA's public docket visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm*.

Docket: All documents in the electronic docket are listed in the *www.regulations.gov* index. Although listed in the index, some information is not publicly available, i.e., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically in *www.regulations.gov* or in hard copy at the Environmental Protection Agency, Region 5, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604. This Facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. We recommend that you telephone John Paskevicz, Engineer, at (312) 886–6084, before visiting the Region 5 office.

FOR FURTHER INFORMATION CONTACT: John Paskevicz, Engineer, Criteria Pollutant Section, Air Programs Branch (AR–18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 886–6084, *paskevicz.john@epa.gov.*

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I. What Action Is EPA Taking?

CAIR SIP Approval

EPA is approving a revision to Indiana's SIP, submitted on February 28, 2007, that would modify the application of certain provisions of the CAIR FIPs concerning SO_2, NO_X annual, and NO_X ozone season emissions. (As discussed more fully below, this less comprehensive CAIR SIP is termed an ''abbreviated SIP.'') Indiana is subject to the CAIR FIP that implements the CAIR requirements by requiring certain Electric Generating Units (EGUs) to participate in the EPA-administered Federal CAIR SO_2, NO_X annual, and NO_X ozone season cap-and-trade programs. The SIP revision provides a methodology for allocating NO_X allowances for the NO_X annual and NO_X ozone season trading programs. The CAIR FIPs provide that this methodology will be used to allocate NO_X allowances to sources in Indiana, instead of the federal allocation methodology otherwise provided in the FIPs. The SIP revision also provides a methodology for allocating the compliance supplement pool allowances in the CAIR NO_X annual trading program, expands the applicability provisions of the CAIR NO_X ozone season trading program, and allows for individual units not otherwise subject to the CAIR trading programs to opt into such trading programs under the opt-in provisions of the CAIR FIP. Consistent with the flexibility provided in the FIP, these provisions will also be used to replace or supplement, as appropriate, the corresponding provisions in the CAIR FIP for Indiana. EPA is not making any changes to the CAIR FIP, but is amending to the extent EPA approves Indiana's SIP revision, the appropriate appendices in the CAIR FIP trading rules simply to note that approval.

II. What Is the Regulatory History of CAIR and the CAIR FIPs?

EPA published CAIR on May 12, 2005 (70 FR 25162). In this rule, EPA determined that 28 States and the District of Columbia contribute significantly to nonattainment and interfere with maintenance of the national ambient air quality standards (NAAQS) for fine particles ($PM_{2.5}$) and/or 8-hour ozone in downwind States in the eastern part of the country. As a result, EPA required those upwind

States to revise their SIPs to include control measures that reduce emissions of SO_2, which is a precursor to $PM_{2.5}$ formation, and/or NO_X, which is a precursor to both ozone and $PM_{2.5}$ formation. For jurisdictions that contribute significantly to downwind $PM_{2.5}$ nonattainment, CAIR sets annual State-wide emission reduction requirements (i.e., budgets) for SO_2 and annual State-wide emission reduction requirements for NO_X. Similarly, for jurisdictions that contribute significantly to 8-hour ozone nonattainment, CAIR sets State-wide emission reduction requirements for NO_X for the ozone season (May 1st to September 30th). Under CAIR, States may implement these emission budgets by participating in the EPA-administered cap-and-trade programs or by adopting any other control measures that the State shows will result in compliance with the applicable SO_2 and NO_X budgets.

CAIR explains to subject States what must be included in SIPs to address the requirements of section 110(a)(2)(D) of the Clean Air Act (CAA) with regard to interstate transport with respect to the 8-hour ozone and $PM_{2.5}$ NAAQS. EPA made national findings on April 25, 2005 (70 FR 21147), effective May 25, 2005, that the States had failed to submit SIPs meeting the requirements of section 110(a)(2)(D). The SIPs were due in July 2000, three years after the promulgation of the 8-hour ozone and $PM_{2.5}$ NAAQS. These findings started a two-year clock for EPA to promulgate a FIP to address the requirements of section 110(a)(2)(D). Under CAA section 110(c)(1), EPA may issue a FIP anytime after such findings are made and must do so within two years unless a SIP revision correcting the deficiency is approved by EPA before the FIP is promulgated.

On April 28, 2006, EPA promulgated FIPs for all States covered by CAIR in order to ensure the emissions reductions required by CAIR are achieved on schedule. Each CAIR State is subject to the FIPs until the State fully adopts, and EPA approves, a SIP revision meeting the requirements of CAIR. The CAIR FIPs require certain EGUs to participate in the EPA-administered CAIR SO_2, NO_X annual, and NO_X ozone-season model trading programs, as appropriate. The CAIR FIP SO_2, NO_X annual, and NO_X ozone season trading programs impose essentially the same requirements as, and are integrated with, the respective CAIR SIP trading programs. The integration of the CAIR FIP and SIP trading programs means that these trading programs will work together to create effectively a single trading program for each regulated pollutant (SO_2, NO_X annual, and NO_X ozone season) in all States covered by the CAIR FIP or SIP trading program for that pollutant. The CAIR FIPs also allow States to submit abbreviated SIP revisions that, if approved by EPA, will automatically replace or supplement the corresponding CAIR FIP provisions (*e.g.*, the methodology for allocating NO_X allowances to sources in the State), while the CAIR FIP remains in place for all other provisions.

On April 28, 2006, EPA published two more CAIR-related final rules that added the States of Delaware and New Jersey to the list of States subject to CAIR for $PM_{2.5}$ and announced EPA's final decisions on reconsideration of five issues without making any substantive changes to the CAIR requirements.

III. What Are the General Requirements of CAIR and the CAIR FIPs?

CAIR establishes State-wide emission budgets for SO_2 and NO_X and is to be implemented in two phases. The first phase of NO_X reductions starts in 2009 and continues through 2014, while the first phase of SO_2 reductions starts in 2010 and continues through 2014. The second phase of reductions for both NO_X and SO_2 starts in 2015 and continues thereafter. CAIR requires States to implement the budgets by either: (1) Requiring EGUs to participate in the EPA-administered cap-and-trade programs: or, (2) adopting other control measures of the State's choosing and demonstrating that such control measures will result in compliance with the applicable State SO_2 and NO_X budgets. The May 12, 2005, and April 28, 2006, CAIR promulgations provide model rules that States must adopt (with certain limited changes, if desired) if they want to participate in the EPA-administered trading programs.

With two exceptions, only States that choose to meet the requirements of CAIR through methods that exclusively regulate EGUs are allowed to participate in the EPA-administered trading programs. One exception is for States that adopt the opt-in provisions of the model rules to allow non-EGUs individually to opt into the EPA-administered trading programs. The other exception is for States that include all non-EGUs from their NO_X SIP Call trading programs in their CAIR NO_X ozone season trading programs.

IV. What Are the Types of CAIR SIP Submittals?

States have the flexibility to choose the type of control measures they will use to meet the requirements of CAIR. EPA anticipates that most States will choose to meet the CAIR requirements by selecting an option that requires EGUs to participate in the EPA-administered CAIR cap-and-trade programs. For such States, EPA has provided two approaches for submitting and obtaining approval for CAIR SIP revisions. States may submit full SIP revisions that adopt the model CAIR cap-and-trade rules. If approved, these SIP revisions will fully replace the CAIR FIPs. Alternatively, States may submit abbreviated SIP revisions. These SIP revisions will not replace the CAIR FIPs; however, the CAIR FIPs provide that, when approved, the provisions in these abbreviated SIP revisions will be used instead of or in conjunction with, as appropriate, the corresponding provisions of the CAIR FIP (e.g., the NO_X allowance allocation methodology).

An abbreviated SIP revision may establish certain applicability and allowance allocation provisions that, as provided by CAIR FIPs, will be used instead of or in conjunction with the corresponding provisions in the CAIR FIP rules in that State. Specifically, the abbreviated SIP revisions may:

1. Include NO_X SIP Call trading sources that are not EGUs under CAIR in the CAIR FIP NO_X ozone season trading program;
2. Provide for allocation of NO_X annual or ozone season allowances by the State, rather than the Administrator, and using a methodology chosen by the State;
3. Provide for allocation of NO_X annual allowances from the CSP by the State, rather than by the Administrator, and using the State's choice of allowed, alternative methodologies; and/or
4. Allow units that are not otherwise CAIR units to opt individually into the CAIR FIP cap-and-trade programs under the opt-in provisions in the CAIR FIP rules.

With approval of an abbreviated SIP revision, the CAIR FIP remains in place, as tailored to sources in the State by that approved SIP revision.

In some situations, EPA determines that a SIP submission does not fully meet all applicable CAA requirements but that the submission nonetheless strengthens the implementation plan. In such cases, EPA uses its ''limited approval'' authority under Sections 110(k)(3) and 301(a) of the Act to adopt regulations that are considered necessary to further air quality. Abbreviated SIP revisions can be submitted in lieu of, or as part of, full CAIR SIP revisions. States may want to designate part of their full SIP as an abbreviated SIP for EPA to act on first

when the timing of the State's submission might not provide EPA with sufficient time to approve the full SIP prior to the deadline for recording NO_X allocations. This will help ensure that the elements of the trading programs where flexibility is allowed are implemented according to the State's decisions. Submission of an abbreviated SIP revision does not preclude future submission of a full CAIR SIP revision. In this case, although the February 28, 2007, submittal from Indiana was submitted as a full SIP revision, by a letter dated September 20, 2007, the State requested that certain portions be approved as an abbreviated SIP revision.

V. Analysis of Indiana's CAIR SIP Submittal

A. State Budgets for Allowance Allocations

The CAIR NO_X annual and ozone season budgets were developed from historical heat input data for EGUs. Using these data, EPA calculated annual and ozone season regional heat input values, which were multiplied by 0.15 lb/mmBtu, for phase 1, and 0.125 lb/mmBtu, for phase 2, to obtain regional NO_X budgets for 2009–2014 and for 2015 and thereafter, respectively. EPA derived the State NO_X annual and ozone season budgets from the regional budgets using State heat input data adjusted by fuel factors.

The CAIR State SO_2 budgets were derived by discounting the tonnage of emissions authorized by annual allowance allocations under the Acid Rain Program under title IV of the CAA. Under CAIR, each allowance allocated in the Acid Rain Program for the years in phase 1 of CAIR (2010 through 2014) authorizes 0.50 ton of SO_2 emissions in the CAIR trading program, and each Acid Rain Program allowance allocated for the years in phase 2 of CAIR (2015 and thereafter) authorizes 0.35 ton of SO_2 emissions in the CAIR trading program.

The CAIR FIPs established the budgets for Indiana as 108,935 tons (for 2009–2014) and 90,779 tons (for 2015 and thereafter) for NO_X annual emissions, 55,729 tons (for 2009–2014) and 49,050 tons (for 2015 and thereafter) for NO_X ozone season emissions, and 254,599 tons (for 2009–2014) and 178,219 tons (for 2015 and thereafter) for SO_2 emissions. The NO_X ozone season budget properly reflects the inclusion of NO_X SIP Call trading program units that are brought into the CAIR NO_X ozone season trading program, as discussed below. Indiana's SIP revision, approved in this action, sets these budgets as the total amounts of allowances available for allocation for each year under the EPA-administered cap-and-trade programs under the CAIR FIP.

B. CAIR Cap-and-Trade Programs

CAIR NO_X annual and ozone-season FIPs both largely mirror the structure of the NO_X SIP Call model trading rule in 40 CFR part 96, subparts A through I. While the provisions of the NO_X annual and ozone-season FIPs are similar, there are some differences. For example, the NO_X annual FIP (but not the NO_X ozone season FIP) provides for a CSP, which is discussed below and under which allowances may be awarded for early reductions of NO_X annual emissions. As a further example, the NO_X ozone season FIP reflects the fact that the CAIR NO_X ozone season trading program replaces the NO_X SIP Call trading program after the 2008 ozone season and is coordinated with the NO_X SIP Call program. The NO_X ozone season FIP provides incentives for early emissions reductions by allowing banked, pre-2009 NO_X SIP Call allowances to be used for compliance in the CAIR NO_X ozone-season trading program. In addition, States have the option of continuing to meet their NO_X SIP Call requirement by participating in the CAIR NO_X ozone season trading program and including all their NO_X SIP Call trading sources in that program.

The provisions of the CAIR SO_2 FIP are also similar to the provisions of the NO_X annual and ozone season FIPs. However, the SO_2 FIP is coordinated with the ongoing Acid Rain SO_2 cap-and-trade program under CAA title IV. The SO_2 FIP uses the title IV allowances for compliance, with each allowance allocated for 2010–2014 authorizing only 0.50 ton of emissions and each allowance allocated for 2015 and thereafter authorizing only 0.35 ton of emissions. Banked title IV allowances allocated for years before 2010 can be used at any time in the CAIR SO_2 cap-and-trade program, with each such allowance authorizing one ton of emissions. Title IV allowances are to be freely transferable among sources covered by the Acid Rain Program and sources covered by the CAIR SO_2 cap-and-trade program.

EPA used the CAIR model trading rules as the basis for the trading programs in the CAIR FIPs. The CAIR FIP trading rules are virtually identical to the CAIR model trading rules, with changes made to account for Federal rather than State implementation. The CAIR model SO_2, NO_X annual, and NO_X ozone season trading rules and the respective CAIR FIP trading rules are designed to work together as integrated SO_2, NO_X annual, and NO_X ozone season trading programs.

Indiana is subject to the CAIR FIPs for ozone and $PM_{2.5}$, and the CAIR FIP trading programs for SO_2, NO_X annual, and NO_X ozone season apply to sources in Indiana. Consistent with the flexibility it gives to States, the CAIR FIPs provide that States may submit abbreviated SIP revisions that will replace or supplement, as appropriate, certain provisions of the CAIR FIP trading programs. The February 28, 2007, submission from Indiana is such an abbreviated SIP revision.

C. Applicability Provisions for Non-EGU NO_X SIP Call Sources

In general, the CAIR FIP trading programs apply to any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving, at any time since the later of November 15, 1990, or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 megawatt electrical (MWe) producing electricity for sale.

States have the option of bringing in, for the CAIR NO_X ozone season program only, those units in the State's NO_X SIP Call trading program that are not EGUs as defined under CAIR. EPA advises States exercising this option to add the applicability provisions in the State's NO_X SIP Call trading rule for non-EGUs to the applicability provisions in 40 CFR 97.304 in order to include in the CAIR NO_X ozone season trading program all units required to be in the State's NO_X SIP Call trading program that are not already included under 40 CFR 97.304. Under this option, the CAIR NO_X ozone season program must cover all large industrial boilers and combustion turbines, as well as any small EGUs (i.e., units serving a generator with a nameplate capacity of 25 MWe or less) that the State currently requires to be in the NO_X SIP Call trading program.

Consistent with the flexibility given to States in the CAIR FIP, Indiana has chosen to expand the applicability provisions of the CAIR NO_X ozone season trading program to include non-EGUs in the State's NO_X SIP Call trading program. However, Indiana's abbreviated SIP submission fails to cover all such units and to include certain related definitions. As such, the SIP submission fails to meet the requirements of 40 CFR 51.123(ee)(1), which requires a State that chooses this option to expand the applicability provisions in a way that brings into the CAIR NO_X ozone season trading program all units that are subject to the State's NO_X SIP Call trading program but are not covered by the applicability

provisions of the CAIR NO_X ozone season FIP.

Specifically, 326 IAC 24–3–1(a)(2) of Indiana's CAIR NO_X ozone season rule expands the CAIR applicability provisions to include, as CAIR NO_X ozone season units, NO_X SIP Call units not otherwise subject to the CAIR program that do not generate electricity for sale (i.e., units defined as ''large affected units'' under 326 IAC 10–4–2(27)) but fails to bring into the CAIR program NO_X SIP Call units not otherwise subject to CAIR that do generate electricity for sale (i.e., units defined as ''electric generating units'' under 326 IAC 10–4–2(16)). In addition, 326 IAC 24–3–1(b) of Indiana's rule applies to these ''large affected units'' the exemptions established under the CAIR model rule for cogeneration units and solid waste incineration units even though the State's NO_X SIP Call trading program lacks any such exemptions. Moreover, Indiana's rule does not include certain definitions that are necessary to apply the State's NO_X SIP Call applicability provisions and to apply other provisions of the State's rule to NO_X SIP Call units. The terms for which definitions are missing, or for which different definitions than those currently in Indiana's rule are needed, include: ''commence commercial operation,'' ''electricity for firm sale to the electric grid,'' ''fossil-fuel-fired,'' and ''unit''.

In light of these deficiencies, EPA concludes that Indiana's abbreviated SIP submission does not fully meet the requirements for such submissions under CAIR. However, EPA finds that, despite these deficiencies concerning applicability, Indiana's submission strengthens the implementation plan for Indiana by bringing into the CAIR FIP trading program units from the NO_X SIP Call that would not otherwise be covered by the requirements of the CAIR FIP and thereby making progress toward meeting Indiana's obligation under the NO_X SIP Call to make NO_X emission reductions.

Under the NO_X SIP Call, Indiana was required to make certain emissions reductions. Indiana met this requirement by making ''large affected units'' under 326 IAC 10–4–2(27) and ''electric generating units'' under 326 IAC 10–4–2(16) subject to the NO_X SIP Call trading program. Starting with the 2009 control period, EPA will no longer administer the NO_X SIP Call trading program (i.e., the NO_X Budget Trading Program), which will therefore cease to exist. *See* 40 CFR 51.121(r)(1). With EPA's termination of the NO_X SIP Call trading program starting with the 2009 ozone season, Indiana will need to take further action to achieve the post-2009 reductions that would otherwise have been achieved under the NO_X SIP Call trading program by those NO_X SIP Call units that are not covered by the CAIR FIP NO_X ozone season rule. *See* 40 CFR 51.121(r)(2) and 51.123(bb)(1)(i). Consequently, Indiana will need to either bring all those units into the CAIR NO_X ozone season trading program or adopt other controls that will achieve the necessary post-2009 reductions. Indiana's abbreviated SIP makes progress toward achieving these needed reductions by bringing most, but not all, of such NO_X SIP Call units into the CAIR FIP NO_X ozone season trading program.

EPA also notes that, as discussed below, despite having deficiencies concerning NO_X ozone season applicability, Indiana's submission meets most of the requirements for abbreviated SIPs. Moreover, while these deficiencies create the potential for erroneous exclusion from the CAIR program of units that may meet the NO_X SIP Call applicability criteria in the future, EPA is not aware of any existing NO_X SIP Call units that would be erroneously excluded from the CAIR program at the present time because of these deficiencies. For these reasons and the additional reasons discussed below, EPA is proposing a limited approval of Indiana's abbreviated SIP submission.

D. NO_X Allowance Allocations

Under the NO_X allowance allocation methodology in the CAIR model trading rules and in the CAIR FIP, NO_X annual and ozone season allowances are allocated to units that have operated for five years, based on heat input data from a three-year period that are adjusted for fuel type by using fuel factors of 1.0 for coal, 0.6 for oil, and 0.4 for other fuels. The CAIR model trading rules and the CAIR FIP also provide a new unit set-aside from which units without five years of operation are allocated allowances based on the units' prior year emissions.

The CAIR FIP provides States the flexibility to establish a different NO_X allowance allocation methodology that will be used to allocate allowances to sources in the States if certain requirements are met concerning the timing of submission of units' allocations to the Administrator for recordation and the total amount of allowances allocated for each control period. In adopting alternative NO_X allowance allocation methodologies, States have flexibility with regard to:

1. The cost to recipients of the allowances, which may be distributed for free or auctioned;
2. The frequency of allocations;
3. The basis for allocating allowances, which may be distributed, for example, based on historical heat input or electric and thermal output; and
4. The use of allowance set-asides and, if used, their size.

Consistent with the flexibility given to States in the CAIR FIP, Indiana has chosen to replace the provisions of the CAIR NO_X annual FIP concerning the allocation of NO_X annual allowances with its own methodology. Indiana has chosen to distribute NO_X annual allowances based on the methodology in the CAIR FIP with some minor modifications. For example, the allocation methodology in both the CAIR FIP and in Indiana's rule makes a proportional allocation of allowances to individual EGUs based on baseline heat input to the boiler or combustion turbine. However, unlike the CAIR FIP methodology that uses a fixed baseline heat input value based on five years of data, the Indiana rule updates the baseline heat input information using the most current eight years of data every six years. Indiana believes that the longer look back period for the initial allocation (1998–2005) is more appropriate than the timeframe in the CAIR FIP because many Indiana sources were installing equipment to comply with the NO_X SIP Call, thus making the shorter time period in the CAIR FIP non-representative of normal operations. Further, with the Indiana heat input baseline being updated over time, retired units, no longer in operation and no longer part of the State's inventory, would eventually stop receiving allowances.

The Indiana rule also includes a new unit set-aside for the NO_X annual trading program. The annual trading program in Indiana includes a new unit set-aside equal to 4.5 percent and 2.5 percent respectively for Phase I and Phase II unlike the CAIR FIP rule, which provides for a new unit set-aside of 5 percent and three percent for these periods. The one-half percent difference from the CAIR NO_X annual FIP is used to provide annual NO_X allowances for an energy efficiency and renewable (EE/RE) set-aside consistent with the NO_X SIP Call EE/RE program.

Indiana's CAIR EE/RE program is intended to provide incentives for EE/RE projects that reduce NO_X emissions starting in 2009. Applicants apply for allowances in one year, and the actual transfer of allowances occurs after the year is over, based on the emission reductions actually achieved. Half of any unallocated allowances for a year in the set-aside will be allocated to the CAIR units, and the other half of such

unallocated allowances will be retained by Indiana, and transferred to the Indiana Office of Energy and Defense Development, to fund a grant program for smaller scale EE/RE projects.

Consistent with the flexibility given to States in the CAIR FIPs, Indiana has chosen to replace the provisions of the CAIR NO_X ozone season FIP concerning allowance allocations with its own methodology. Indiana will distribute NO_X ozone season allowances based upon the methodology in the CAIR FIP with some changes. For example, Indiana's rule takes into account the fact that allowances for the 2009 ozone season trading period have already been allocated, and recorded by the Administrator, under Indiana's NO_X SIP Call trading program. This is the first year for which allowances are allocated under the CAIR FIP NO_X ozone season trading rule. The Indiana rule provides that these 2009 NO_X SIP Call allowances are the CAIR NO_X ozone season allowances for 2009, and thus no additional allocations for the 2009 ozone season for Indiana sources (except for CAIR NO_X ozone season opt-in units, as discussed below) will be made under the CAIR NO_X ozone season trading program. Consistent with this provision of Indiana's rule, the Administrator, in operating the CAIR NO_X Ozone Season Tracking System, will treat each 2009 NO_X SIP Call allowance issued by Indiana as usable for compliance with the allowance-holding requirements of the CAIR NO_X Ozone Season Trading Program by any CAIR NO_X ozone season source that holds the allowance in the source's compliance account as of the allowance transfer deadline, regardless of the State in which the source is located.

For control periods after 2009, Indiana's rule provides for the allocation of new allowances for the CAIR NO_X ozone season program. For units covered by the CAIR NO_X ozone season program under the applicability provisions of the CAIR FIP, Indiana's rule adopts an allocation methodology similar to that described above concerning CAIR NO_X annual allowance allocations. For NO_X SIP Call units brought into the CAIR trading program, Indiana's rule adopts a methodology that allocates allowances based on maximum design heat input as well as on baseline heat input. The Indiana rule also provides separate new unit set-asides for units covered by the applicability provisions in the CAIR FIP and for NO_X SIP Call units brought into the CAIR program.

Further, Indiana included in its NO_X ozone season trading program an EE/RE set-aside program and a hardship set-aside for NO_X SIP Call units brought into the CAIR program. The NO_X ozone season EE/RE set-aside is similar to the NO_X annual EE/RE set-aside except that half of any unallocated allowances for a year in the set-aside will be returned to the NO_X SIP Call units in the program, and the rest will go to the grant program.

EPA's limited approval of Indiana's abbreviated SIP will allow implementation of the allocation methodologies selected by Indiana and, in particular, Indiana's methodology to address the allowances already issued, and recorded by the Administrator, in the NO_X SIP Call trading program for the 2009 ozone season.

E. Allocation of NO_X Allowances From Compliance Supplement Pool

The CAIR establishes a CSP to provide an incentive for early reductions in NO_X annual emissions. The CSP consists of 200,000 CAIR NO_X annual allowances of vintage 2009 for the entire CAIR region, and a State's share of the CSP is based upon the projected magnitude of the emission reductions required by CAIR in that State. States may distribute CSP allowances, one allowance for each ton of early reduction, to sources that make NO_X reductions during 2007 or 2008 beyond what is required by any applicable State or Federal emission limitation. States also may distribute CSP allowances based upon a demonstration of need for an extension of the 2009 deadline for implementing emission controls.

The CAIR annual NO_X FIP establishes specific methodologies for allocations of CSP allowances. States may choose an allowed, alternative CSP allocation methodology to be used to allocate CSP allowances to sources in the States.

Consistent with the flexibility given to States in the CAIR FIP, Indiana has chosen to modify the provisions of the CAIR NO_X annual FIP concerning the allocation of allowances from the CSP. The CSP provision of the Indiana rule differs from the one included in the CAIR NO_X annual FIP by providing a mechanism for Indiana to reserve allowances for all eligible units in advance of allocations to provide some certainty to sources regarding the minimum amount of allowances that will be available to them for early reduction credits. Under Indiana's rule, an eligible unit is one that has or will have post-combustion control equipment installed before December 31, 2008, or, for all other units, one that is able to achieve a NO_X emission rate that is at least 10 percent lower than the heat input weighted average NO_X emission rate for 2003 through 2005, excluding the ozone season of each year. Eligible units must be coal-fired CAIR NO_X units. The amount of reserved allowances reflects the difference between the eligible unit's non-ozone season emission rate in 2003–2005 and the unit's non-ozone season emission rate in 2007 and 2008.

Indiana also included an incentive for control configurations that maximize mercury reduction co-benefits within the CSP program. The intent of this option is to encourage new selective catalytic reduction (SCR) installation and year-round SCR operation at units that have or will have electrostatic precipitators (ESP) and flue gas desulfurization (FGD) in 2007 and 2008. This option is offered to sources because the above control configuration of SCR, ESP and FGD can achieve up to 90 percent mercury reduction. The Indiana rule awards a bonus to units that achieve reductions in excess of their reserved allowances and, for units with SCR, ESP, and FGD, the bonus is 1.5 times the NO_X reductions achieved. However, the State's rule contains a limitation that precludes any eligible unit from receiving CSP allowances in excess of the actual NO_X reductions achieved beyond the reserved amount.

F. Individual Opt-In Units

The opt-in provisions of the CAIR FIP allow certain non-EGUs that do not meet the applicability criteria for a CAIR trading program to participate voluntarily in (i.e., opt into) the CAIR trading program. A non-EGU may opt into one or more of the CAIR trading programs. In order to qualify to opt into a CAIR trading program, a unit must vent all emissions through a stack and be able to meet monitoring, recordkeeping, and recording requirements of 40 CFR part 75. The owners and operators seeking to make a choice to include a unit in a CAIR trading program must apply for a CAIR opt-in permit. If the unit is issued a CAIR opt-in permit, the unit becomes a CAIR unit, is allocated allowances, and must meet the same allowance-holding and emissions monitoring and reporting requirements as other units subject to the CAIR trading program. The opt-in provisions provide methodologies for allocating allowances for opt-in units, one that applies to opt-in units in general and a second that allocates allowances only to opt-in units that the owners and operators intend to re-power before January 1, 2015.

States have several options concerning the opt-in provisions. The rules for each of the CAIR FIP trading programs include opt-in provisions that

are essentially the same as those in the respective CAIR SIP model rules, except that the CAIR FIP opt-in provisions become effective in a State only if the State's abbreviated SIP revision adopts opt-in provisions as provided for in § 51.123(p)(3). The State may adopt the opt-in provisions entirely, or may adopt them but exclude one of the allowance allocation methodologies. The State also has the option of not adopting any opt-in provisions in the abbreviated SIP revision and thereby providing for the CAIR FIP trading program to be implemented in the State without the ability for units to opt into the program.

Consistent with the flexibility given to States in the FIP, Indiana has chosen to allow non-EGUs meeting certain requirements to opt into the CAIR NO_X annual trading program, the CAIR NO_X ozone season trading program and the CAIR SO_2 trading program. The State has allowed both opt-in allocation methodologies for each program as specified in 40 CFR part 97, subparts II, III, and IIII. EPA notes that Indiana's abbreviated SIP includes opt-in provisions for the CAIR NO_X annual and ozone season and SO_2 programs that are essentially the same as the opt-in provisions in the model rules for these programs and in the CAIR FIP. The Indiana opt-in provisions include most, but not all, of the most recent revisions that EPA made to the model rule and CAIR FIP opt-in provisions. Indiana has indicated that it intends to submit a revised full SIP that adopts all of the most recent revisions to the opt-in provisions. Consequently, EPA considers Indiana's rule to include provisions that are substantively identical to the opt-in provisions in part 96 of this chapter. Thus, units in Indiana may opt into the CAIR trading programs as provided for in subparts II, III, and IIII of the CAIR FIP.

VI. Final Action

EPA is approving Indiana's abbreviated CAIR SIP revision submitted on February 28, 2007, as amended by letter of September 20, 2007. Indiana is covered by the CAIR FIP, which requires participation in the EPA-administered CAIR FIP cap-and-trade programs for SO_2, NO_X annual, and NO_X ozone season emissions. Under this abbreviated SIP revision, Indiana adopts provisions for allocating allowances under the CAIR FIP NO_X annual and ozone season trading programs. Indiana also adopts in the abbreviated SIP revision provisions that establish a methodology for allocating allowances in the CSP, and expands the applicability provisions for the CAIR FIP NO_X ozone season trading program. Indiana also allows units to opt-in to the CAIR NO_X annual, NO_X ozone season, and SO_2 trading programs, and utilizes the two methodologies set forth in the FIP for allocating allowances to such units. Therefore, the opt-in provisions provided as an option in the CAIR FIP trading programs (in parts 40 CFR part 97, subparts II, III and IIII), will apply to units in Indiana. As provided for in the CAIR FIPs, these provisions in the abbreviated SIP revision will replace or supplement the corresponding provisions of the CAIR FIP in Indiana. EPA is not proposing to make any changes to the CAIR FIP, but is proposing, to the extent EPA approves Indiana's SIP revision, to amend the appropriate appendices in the CAIR FIP trading rules simply to note that approval.

EPA is making limited approval of Indiana's abbreviated SIP revision because, despite the deficiencies in the NO_X ozone season applicability provisions and related definitions that result in the submission not meeting the requirements of CAIR in 40 CFR 51.123(ee)(1), the submission strengthens the implementation plan for Indiana. (A detailed description of how these deficiencies can be corrected is set forth in a technical support document that is included in the docket of this rulemaking.) As discussed above, Indiana's SIP is strengthened because it makes progress toward meeting Indiana's emission reduction requirements under the NO_X SIP Call. EPA further believes that the limited approval is appropriate because incorporation of Indiana's rules into the SIP will allow EPA to implement the methodology selected by Indiana to address the allowances for the 2009 ozone season that already have been allocated, and recorded by the Administrator, under Indiana's NO_X SIP Call trading program.

This limited approval incorporates the rules in the abbreviated SIP revision into the SIP, including those provisions identified as deficient. EPA notes that Indiana has indicated in its September 20, 2007, letter that it intends to submit revised elements of the full SIP that address the above-described deficiencies related to applicability, as well as some other issues concerning its current full SIP submission. EPA intends to propose subsequently a limited disapproval of the abbreviated SIP unless the deficiencies are corrected.

VII. Statutory and Executive Order Reviews

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a ''significant regulatory action'' and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355, May 22, 2001). This action merely approves State law as making progress toward meeting Federal requirements and would impose no additional requirements beyond those imposed by State law. Accordingly, the Administrator certifies that this rule would not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.). Because this action approves pre-existing requirements under State law and would not impose any additional enforceable duty beyond that required by State law, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4).

This rule also does not have tribal implications because it would not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000). This action also does not have Federalism implications because it would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999). This action merely approves a State rule making progress toward implementing a Federal standard and to amend the appropriate appendices in the CAIR FIP trading rules to note that approval. It does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. This rule also is not subject to Executive Order 13045 ''Protection of Children from Environmental Health Risks and Safety Risks'' (62 FR 19885, April 23, 1997), because it would approve a State rule making progress toward implementing a Federal Standard.

In reviewing SIP submissions, EPA's role is to approve State choices, provided that they meet the criteria of the Clean Air Act. In this context, in the absence of a prior existing requirement for the State to use voluntary consensus

standards (VCS), EPA has no authority to disapprove a SIP submission for failure to use VCS. It would thus be inconsistent with applicable law for EPA, when it reviews a SIP submission, to use VCS in place of a SIP submission that otherwise satisfies the provisions of the Clean Air Act. Thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. This rule would not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.).

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by December 21, 2007. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects

40 CFR Part 52

Environmental protection, Air pollution control, Electric utilities, Incorporation by Reference, Intergovernmental relations, Nitrogen oxides, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur dioxide.

40 CFR Part 97

Environmental protection, Air pollution control, Electric utilities, Intergovernmental relations, Nitrogen oxides, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur dioxide.

Dated: September 27, 2007.

Bharat Mathur,

Acting Regional Administrator, Region 5.

■ For the reasons set forth in the preamble, parts 52 and 97 of chapter 1 of title 40 of the Code of Federal Regulations are amended as follows:

PART 52—[AMENDED]

■ 1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

Subpart P—Indiana

■ 2. Section 52.770 is amended by adding paragraph (c)(185) to read as follows:

§ 52.770 Identification of plan.

* * * * *

(c) * * *

(185) The Indiana Department of Environmental Management submitted amendments on September 20, 2007 to the State Implementation Plan to Control Emissions from electric generating units (EGU) and non-EGUs. Rules affecting these units include: 326 Indiana Administrative Code (IAC) 24–1–2, 326 IAC 24–1–8, 326 IAC 24–1–12, 326 IAC 24–2–11, 326 IAC 24–3–1, 326 IAC 24–3–2, 326 IAC 24–3–8 and 326 IAC 24–3–12 respectively.

(i) Incorporation by reference. The following sections of the Indiana Administrative Code (IAC) are incorporated by reference: 326 IAC 24–1–2(36) ''Control period''; 326 IAC 24–1–2(38) ''Energy efficiency or renewable energy projects''; 326 IAC 24–1–2(60) ''Rated energy efficiency''; 326 IAC 24–1–8 ''CAIR NO_X allowance allocations''; 326 IAC 24–1–12 ''CAIR NO_X opt-in units''; 326 IAC 24–2–11 ''CAIR SO_2 opt-in units''; 326 IAC 24–3–1 ''Applicability''; 326 IAC 24–3–2(38) ''Energy efficiency or renewable energy projects''; 326 IAC 24–3–2(49) ''Large affected unit''; 326 IAC 24–3–2(61) ''Rated energy efficiency''; 326 IAC 24–3–8 ''CAIR NO_X ozone season allowance''; and 326 IAC 24–3–12 ''CAIR NO_X ozone season opt-in units''. Approved by the Attorney General January 12, 2007. Approved by the Governor January 23, 2007. Filed with the Publisher January 26, 2007. Published on the Indiana Register Web site February 28, 2007, Document Identification Number (DIN): 20070221–IR–326050117FRA. Effective February 25, 2007.

* * * * *

PART 97—[AMENDED]

■ 3. The authority citation for part 97 continues to read as follows:

Authority: 42 U.S.C. 7401, 7403, 7410, 7426, 7601, and 7651, et seq.

■ 4. Appendix A to subpart EE is amended by adding in alphabetical order the entry ''Indiana'' under paragraph 1. and 2. to read as follows:

Appendix A to Subpart EE of Part 97—States With Approved State Implementation Plan Revisions Concerning Allocations

1. * * *

Indiana

2. * * *

Indiana

* * * * *

■ 5. Appendix A to Subpart II of Part 97 is amended by adding in alphabetical order the entry ''Indiana'' under paragraphs 1. and 2. to read as follows:

Appendix A to Subpart II of Part 97—States With Approved State Implementation Plan Revisions Concerning CAIR NO_X Opt-In Units

1. * * *

Indiana

2. * * *

Indiana

* * * * *

■ 6. Appendix A to Subpart III of Part 97 is amended by adding in alphabetical order the entry ''Indiana'' under paragraphs 1. and 2. to read as follows:

Appendix A to Subpart III of Part 97—States With Approved State Implementation Plan Revisions Concerning CAIR SO_2 Opt-In Units

1. * * *

Indiana

2. * * *

Indiana

* * * * *

■ 7. Appendix A to Subpart EEEE of Part 97 is amended by adding in alphabetical order the entry ''Indiana'' to read as follows:

Appendix A to Subpart EEEE of Part 97—States With Approved State Implementation Plan Revisions Concerning Allocations

* * * * *

Indiana

* * * * *

■ 8. Appendix A to Subpart IIII of Part 97 is amended by adding in alphabetical order the entry ''Indiana'' under paragraphs 1. and 2. to read as follows:

Appendix A to Subpart IIII of Part 97—States With Approved State Implementation Plan Revisions Concerning CAIR NO_X Ozone Season Opt-In Units

1. * * *

Indiana

2. * * *

Indiana

* * * * *

[FR Doc. E7–20249 Filed 10–19–07; 8:45 am]

BILLING CODE 6560–50–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[DA 07–4128; MB Docket No. 07–39; RM–11360]

Radio Broadcasting Service; Prineville, OR

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: The Audio Division grants a petition for rulemaking filed by Terry A. Cowan for a new allotment at Prineville, Oregon. Channel 299C3 can be allotted at Prineville, Oregon in compliance with the Commission's minimum distance separation requirements at 44–26–17 North Latitude and 120–57–12 West Longitude with a site restriction of 11.4 kilometers (7.1 miles) north of city reference.

DATES: Effective November 19, 2007.

ADDRESSES: Secretary, Federal Communications Commission, 445 Twelfth Street, SW., Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: Rolanda F. Smith, Media Bureau, (202) 418–2738.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's *Report and Order*, MB Docket No. 07–39, adopted October 3, 2007, and released October 5, 2007. The full text of this Commission decision is available for inspection and copying during regular business hours at the FCC's Reference Information Center, Portals II, 445 Twelfth Street, SW., Room CY–A257, Washington, DC 20554. The complete text of this decision may also be purchased from the Commission's duplicating contractor, Best Copy and Printing, Inc., 445 12th Street, SW., Room CY–B402, Washington, DC 20554, telephone 1–800–378–3160 or *http://www.BCPIWEB.com.* The Commission will send a copy of this *Report and Order* in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

List of Subjects in 47 CFR Part 73

Radio, Radio broadcasting.

■ As stated in the preamble, the Federal Communications Commission amends 47 CFR part 73 as follows:

PART 73—RADIO BROADCAST SERVICES

■ 1. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334, 336.

§ 73.202 [Amended]

■ 2. Section 73.202(b), the Table of FM Allotments under Oregon, is amended by adding Channel 299C3 at Prineville.

Federal Communications Commission.

John A. Karousos,

Assistant Chief, Audio Division, Media Bureau.

[FR Doc. E7–20744 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[DA 07–4130; MB Docket No. 06–200]

Radio Broadcasting Services; Boswell, OK, and Detroit, TX

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: The Audio Division, on its own motion, deletes Channel 282C3 at Boswell, Oklahoma to resolve existing distance spacing conflicts. It is Commission policy to refrain from maintaining an allotment in instances where there are no *bona fide* expressions of interest.

DATES: Effective November 19, 2007.

ADDRESSES: Federal Communications Commission, 445 Twelfth Street, SW., Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: Rolanda F. Smith, Media Bureau, (202) 418–2180.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's *Report and Order*, MB Docket No. 06–200, adopted October 3, 2007, and released October 5, 2007. The full text of this Commission decision is available for inspection and copying during normal business hours in the Commission's Reference Information Center, 445 Twelfth Street, SW., Washington, DC 20554. The complete text of this decision may also be purchased from the Commission's duplicating contractor, Best Copy and Printing, Inc., 445 12th Street, SW., Room CY–B402, Washington, DC 20554, telephone 1–800–378–3160 or *http://www.BCPIWEB.com.* The Commission will send a copy of this *Report and Order* in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

List of Subjects in 47 CFR Part 73

Radio, Radio broadcasting.

■ As stated in the preamble, the Federal Communications Commission amends 47 CFR part 73 as follows:

PART 73—RADIO BROADCAST SERVICES

■ 1. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334, 336.

§ 73.202 [Amended]

■ 2. Section 73.202(b), the Table of FM Allotments under Oklahoma, is amended by removing Boswell, Channel 282C3.

Federal Communications Commission.

John A. Karousos,

Assistant Chief, Audio Division, Media Bureau.

[FR Doc. E7–20745 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

Proposed Rules

Federal Register
Vol. 72, No. 203
Monday, October 22, 2007

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF THE INTERIOR

Office of Surface Mining Reclamation and Enforcement

30 CFR Part 944

[SATS No. UT–044–FOR; State Amendment Identification Number UT–1196]

Utah Regulatory Program

AGENCY: Office of Surface Mining Reclamation and Enforcement, Interior.

ACTION: Proposed rule; public comment period and opportunity for public hearing on proposed amendment.

SUMMARY: We are announcing receipt of a proposed amendment to the Utah regulatory program (hereinafter, the Utah program) under the Surface Mining Control and Reclamation Act of 1977 (SMCRA or the Act). Utah proposes revisions to and additions of rules and statutes about waiving specific application requirements with a written determination by the Division of Oil, Gas and Mining (DOGM), clarification that applications shall be filed with the county clerk ''for public inspection,'' and allowing the area covered by a permit to be extended by an application for a significant permit revision.

Utah intends to revise its program to be consistent with the corresponding Federal regulations and SMCRA, clarify ambiguities, and to improve operational efficiency.

This document gives the times and locations that the Utah program and proposed amendment to that program are available for your inspection, the comment period during which you may submit written comments on the amendment, and the procedures that we will follow for the public hearing, if one is requested.

DATES: We will accept written comments on this amendment until 4 p.m., m.s.t., November 21, 2007. If requested, we will hold a public hearing on the amendment on November 16, 2007. We will accept requests to speak until 4 p.m., m.s.t., on November 6, 2007.

ADDRESSES: You may submit comments, identified by ''UT–044–FOR'' by any of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* OSM is listed as Office of Surface Mining Reclamation and Enforcement. Follow the instructions for submitting comments.
- *Mail:* James F. Fulton, Chief, Denver Field Division, Office of Surface Mining Reclamation and Enforcement, P.O. Box 46667, Denver, CO 80201–6667.
- *Hand Delivery/Courier:* James F. Fulton, Chief, Denver Field Division, Office of Surface Mining Reclamation and Enforcement, 1999 Broadway, suite 3320, Denver, CO 80202–5733.

Instructions: All submissions received must include the agency name and UT–044–FOR. For detailed instructions on submitting comments and additional information on the rulemaking process, see the ''Public Comment Procedures'' heading of the **SUPPLEMENTARY INFORMATION** section of this document.

Docket: Access to the docket, to review copies of the Utah program, this amendment, a listing of any scheduled public hearings, and all written comments received in response to this document, may be obtained at the addresses listed below during normal business hours, Monday through Friday, excluding holidays. You may receive one free copy of the amendment by contacting Office of Surface Mining Reclamation and Enforcement (OSM's) Denver Field Division. In addition, you may review a copy of the amendment during regular business hours at the following locations:

James F. Fulton, Chief, Denver Field Division, Office of Surface Mining Reclamation and Enforcement, 1999 Broadway, suite 3320, Denver, CO 80202–5733, Telephone: (303) 844–1400, extension 1424, E-mail: *jfulton@osmre.gov.*

John R. Baza, Director, Division of Oil, Gas and Mining, 1594 West North Temple, suite 1210, Salt Lake City, UT 84114–5801, Telephone: (801) 538–5340, Internet: *http://www.ogm.utah.gov.*

Or anytime at: *http://www.regulations.gov.* OSM is listed as Office of Surface Mining Reclamation and Enforcement.

FOR FURTHER INFORMATION CONTACT: James F. Fulton, Telephone: (303) 844–1400 extension 1424. Internet: *jfulton@osmre.gov.*

SUPPLEMENTARY INFORMATION:

I. Background on the Utah Program
II. Description of the Proposed Amendment
III. Public Comment Procedures
IV. Procedural Determinations

I. Background on the Utah Program

Section 503(a) of the Act permits a State to assume primacy for the regulation of surface coal mining and reclamation operations on non-Federal and non-Indian lands within its borders by demonstrating that its State program includes, among other things, ''a State law which provides for the regulation of surface coal mining and reclamation operations in accordance with the requirements of this Act * * *; and rules and regulations consistent with regulations issued by the Secretary pursuant to this Act.'' See 30 U.S.C. 1253(a)(1) and (7). On the basis of these criteria, the Secretary of the Interior conditionally approved the Utah program on January 21, 1981. You can find background information on the Utah program, including the Secretary's findings, the disposition of comments, and the conditions of approval of the Utah program in the January 21, 1981, **Federal Register** (46 FR 5899). You can also find later actions concerning Utah's program and program amendments at 30 CFR 944.15 and 944.30.

II. Description of the Proposed Amendment

By letter dated August 31, 2007, Utah sent us a proposed amendment to its program (SATS No. UT–044–FOR, administrative record number UT–1196) under SMCRA (30 U.S.C. 1201 *et seq.*). Utah sent the amendment to propose changes made at its own initiative. The full text of the program amendment is available for you to read at the locations listed above under **ADDRESSES**.

Specifically, Utah proposes to amend Utah Code Annotated (UCA) § 40–10–10(2)(d)(ii) to clarify the specific permit application requirements which may be waived by the Division with a written determination that the requirements are unnecessary. Without this proposed specification, the provision could be interpreted as allowing the Division to waive a broader range of requirements.

The proposed amendment to UCA § 40–10–10(5) reinstates a provision that was inadvertently deleted in S.B. 72 in 2002. The proposed addition clarifies that permit applications are to be filed

with the county clerk ''for public inspection.''

The above proposed revisions to UCA § 40–10–10(2)(d)(ii) and UCA § 40–10–10(5) address topics that were originally addressed in SATS No. UT–042–FOR (administrative record number UT–1171) and included in the February 21, 2003, concern letter (administrative record number UT–1180) from OSM to DOGM.

Proposed changes to UCA § 40–10–12(1)(c) add a provision allowing extensions to area covered by a permit to be made through significant permit revisions. Additional changes recodify the provision and do not change the meaning of the existing statute.

The proposed change to Administrative Rule R645–303–222 implements the proposed changes to UCA § 40–10–12(1)(c) and reflects the procedural requirements referenced for permit revisions rather than the previous reference to new permit application requirements. The above proposed amendment to R645–303–222 was originally proposed in UT–043–FOR (admin record number UT–1181). OSM raised concerns regarding a conflict with the Utah statute (UCA) § 40–10–12(1)(c) in a phone conversation on January 23, 2006, documented as administrative record number UT–1190. Utah formally withdrew the proposed amendment to R645–303–222 on February 16, 2006 (admin record number UT–1194) pending their submittal of a proposed change to UCA § 40–10–12(1)(c).

III. Public Comment Procedures

Under the provisions of 30 CFR 732.17(h), we are seeking your comments on whether the amendment satisfies the applicable program approval criteria of 30 CFR 732.15. If we approve the amendment, it will become part of the Utah program.

Written Comments

Send your written or electronic comments to us at the addresses given above. Your written comments should be specific, pertain only to the issues proposed in this rulemaking, and include explanations in support of your recommendations. We will not consider or respond to your comments when developing the final rule if they are received after the close of the comment period (see **DATES**). We will make every attempt to log all comments into the record for this rulemaking, but comments delivered to an address other than the those listed above may not be logged in.

Public Availability of Comments

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Public Hearing

If you wish to speak at the public hearing, contact the person listed under **FOR FURTHER INFORMATION CONTACT** by 4 p.m., m.s.t. on November 6, 2007. If you are disabled and need special accommodations to attend a public hearing, contact the person listed under **FOR FURTHER INFORMATION CONTACT**. We will arrange the location and time of the hearing with those persons requesting the hearing. If no one requests an opportunity to speak, we will not hold the hearing.

To assist the transcriber and ensure an accurate record, we request, if possible, that each person who speaks at a public hearing provide us with a written copy of his or her comments. The public hearing will continue on the specified date until everyone scheduled to speak has been given an opportunity to be heard. If you are in the audience and have not been scheduled to speak and wish to do so, you will be allowed to speak after those who have been scheduled. We will end the hearing after everyone scheduled to speak and others present in the audience who wish to speak, have been heard.

Public Meeting

If only one person requests an opportunity to speak, we may hold a public meeting rather than a public hearing. If you wish to meet with us to discuss the amendment, please request a meeting by contacting the person listed under **FOR FURTHER INFORMATION CONTACT**. All such meetings are open to the public and, if possible, we will post notices of meetings at the locations listed under **ADDRESSES**. We will make a written summary of each meeting a part of the administrative record.

IV. Procedural Determinations

Executive Order 12630—Takings

This rule does not have takings implications. This determination is based on the analysis performed for the counterpart Federal regulation.

Executive Order 12866—Regulatory Planning and Review

This rule is exempted from review by the Office of Management and Budget (OMB) under Executive Order 12866.

Executive Order 12988—Civil Justice Reform

The Department of the Interior has conducted the reviews required by section 3 of Executive Order 12988 and has determined that this rule meets the applicable standards of subsections (a) and (b) of that section. However, these standards are not applicable to the actual language of State regulatory programs and program amendments because each program is drafted and promulgated by a specific State, not by OSM. Under sections 503 and 505 of SMCRA (30 U.S.C. 1253 and 1255) and the Federal regulations at 30 CFR 730.11, 732.15, and 732.17(h)(10), decisions on proposed State regulatory programs and program amendments submitted by the States must be based solely on a determination of whether the submittal is consistent with SMCRA and its implementing Federal regulations and whether the other requirements of 30 CFR parts 730, 731, and 732 have been met.

Executive Order 13132—Federalism

This rule does not have federalism implications. SMCRA delineates the roles of the Federal and State governments with regard to the regulation of surface coal mining and reclamation operations. One of the purposes of SMCRA is to ''establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations.'' Section 503(a)(1) of SMCRA requires that State laws regulating surface coal mining and reclamation operations be ''in accordance with'' the requirements of SMCRA. Section 503(a)(7) requires that State programs contain rules and regulations ''consistent with'' regulations issued by the Secretary pursuant to SMCRA.

Executive Order 13175—Consultation and Coordination With Indian Tribal Governments

In accordance with Executive Order 13175, we have evaluated the potential effects of this rule on Federally recognized Indian Tribes and have determined that the rule does not have substantial direct effects on one or more Indian Tribes, on the relationship between the Federal government and Indian Tribes, or on the distribution of power and responsibilities between the Federal government and Indian Tribes.

The rule does not involve or affect Indian Tribes in any way.

Executive Order 13211—Regulations That Significantly Affect the Supply, Distribution, or Use of Energy

On May 18, 2001, the President issued Executive Order 13211 which requires agencies to prepare a Statement of Energy Effects for a rule that is (1) considered significant under Executive Order 12866, and (2) likely to have a significant adverse effect on the supply, distribution, or use of energy. Because this rule is exempt from review under Executive Order 12866 and is not expected to have a significant adverse effect on the supply, distribution, or use of energy, a Statement of Energy Effects is not required.

National Environmental Policy Act

This rule does not require an environmental impact statement because section 702(d) of SMCRA (30 U.S.C. 1292(d)) provides that agency decisions on proposed State regulatory program provisions do not constitute major Federal actions within the meaning of section 102(2)(C) of the National Environmental Policy Act (42 U.S.C. 4321 *et seq*).

Paperwork Reduction Act

This rule does not contain information collection requirements that require approval by OMB under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*).

Regulatory Flexibility Act

The Department of the Interior certifies that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). The State submittal, which is the subject of this rule, is based upon counterpart Federal regulations for which an economic analysis was prepared and certification made that such regulations would not have a significant economic effect upon a substantial number of small entities. In making the determination as to whether this rule would have a significant economic impact, the Department relied upon the data and assumptions for the counterpart Federal regulations.

Small Business Regulatory Enforcement Fairness Act

This rule is not a major rule under 5 U.S.C. 804(2), of the Small Business Regulatory Enforcement Fairness Act.

This rule:

a. Does not have an annual effect on the economy of $100 million.

b. Will not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions.

c. Does not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S. based enterprises to compete with foreign-based enterprises. This determination is based upon the fact that the State submittal which is the subject of this rule is based upon counterpart Federal regulations for which an analysis was prepared and a determination made that the Federal regulation was not considered a major rule.

Unfunded Mandates

This rule will not impose an unfunded Mandate on State, local, or tribal governments or the private sector of $100 million or more in any given year. This determination is based upon the fact that the State submittal, which is the subject of this rule, is based upon counterpart Federal regulations for which an analysis was prepared and a determination made that the Federal regulation did not impose an unfunded mandate.

List of Subjects in 30 CFR Part 944

Intergovernmental relations, Surface mining, Underground mining.

Dated: September 12, 2007.

Allen D. Klein,

Regional Director, Western Region.

[FR Doc. E7–20697 Filed 10–19–07; 8:45 am]

BILLING CODE 4310–05–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 110

[Docket No. CGD07–122]

RIN 1625–AA01

Anchorage Regulation; Port Everglades, FL

AGENCY: Coast Guard, DHS.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard proposes to amend the anchorage regulations for Port Everglades, Florida. The amendment would modify the current anchorage area by eliminating that portion of the anchorage closest to sensitive coral reef areas, expand that portion of the anchorage area that poses less risk to these areas, and limit the amount of time a vessel may remain in the anchorage area. These changes would ensure all vessels have fair access to the anchorage area, and provide a higher degree of vessel and environmental safety by reducing the possibility of vessels grounding in sensitive coral reef areas.

DATES: Comments and related material must reach the Coast Guard on or before November 21, 2007.

ADDRESSES: You may mail comments and related material to Coast Guard Sector Miami, Waterways Management Division, 100 MacArthur Causeway, Miami Beach, Florida, 33139. Coast Guard Sector Miami, Waterways Management Division maintains the public docket for this rulemaking. Comments and material received from the public, as well as documents indicated in this preamble as being available in the docket, will become part of this docket and will be available for inspection or copying at Coast Guard Sector Miami, Waterways Management Division between 8 a.m. and 3 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Lieutenant Junior Grade Chris Svencer, Coast Guard Sector Miami, Waterways Management Division at (305) 535–4550.

SUPPLEMENTARY INFORMATION:

Request for Comments

We encourage you to participate in this rulemaking by submitting comments and related material. If you do so, please include your name and address, identify the docket number for this rulemaking [CGD07–122], indicate the specific section of this document to which each comment applies, and give the reason for each comment. Please submit all comments and related material in an unbound format, no larger than 8½ by 11 inches, suitable for copying. If you would like to know they reached us, please enclose a stamped, self-addressed postcard or envelope. We will consider all comments and material received during the comment period. We may change this proposed rule in view of them.

Public Meeting

We do not now plan to hold a public meeting. But you may submit a request for a meeting by writing to Coast Guard Sector Miami, Waterways Management Division at the address under **ADDRESSES** explaining why one would be beneficial. If we determine that one would aid this rulemaking, we will hold one at a time and place announced by a later notice in the **Federal Register**.

Background and Purpose

During the last ten years, nine known groundings and six known anchor mishaps have occurred while vessels were attempting to anchor inside the current anchorage described in 33 CFR 110.186, or after a vessel anchored inside the anchorage dragged her anchor outside of the anchorage area. Anchoring mishaps include both misplacement of the anchor itself upon coral reefs as well as contact between the anchor cable and coral reefs. Adverse weather conditions, proximity to the reef, anchorage congestion, and poor seamanship were contributing factors to the groundings and anchoring mishaps.

This proposed rule is necessary to modify existing anchoring requirements and guidelines in order to provide a higher degree of protection to the coastal area and sensitive benthic coral reef ecosystems, and to provide a safer anchorage for mariners. This amendment is intended to re-designate the anchorage areas to account for anchor position and cable lay and limit the amount of time vessels may remain at anchorage. Placing a limitation on the amount of time a vessel can spend at the anchorage area will reduce the number of vessels routinely utilizing the anchorage area for purposes other than awaiting berth inside Port Everglades.

The Coast Guard has also researched alternative solutions for restructuring the anchorage. These alternatives have included: Change nothing and continue to use the current anchorage; create anchorage circles to control the location of vessels in the anchorage area; and remove the anchorage completely. The dramatic impact of recent vessel groundings on the sensitive coral reefs in the vicinity of the current anchorage area necessitates modification of the current anchorage area to provide a greater distance between the anchorage and shore. Creating anchorage circles for precision anchorage does not eliminate the threat to the local reefs due to ever changing weather conditions that may drag properly anchored vessels over the coral reefs to the west. Finally, removing the anchorage altogether is not feasible due to commercial traffic in need of a location to anchor while awaiting a berth in Port Everglades.

Discussion of Proposed Rule

This adjustment of the anchorage area off Port Everglades is necessary to protect life, minimize injury to the marine environment, and provide a greater margin of safety for vessels and property from the associated hazards resulting from vessel groundings. This proposal will close anchorage area ''A'' and expand anchorage area ''B''. The new anchorage area will be farther away from sensitive coral reef species.

The Coast Guard has completed an environmental assessment and has confirmed that the relocated anchorage will greatly reduce the impact on the delicate coral structures currently located near anchorage ''A''. The time period a vessel may remain at anchor in the anchorage will be limited to 72 hours to provide all vessels calling on the port equal and fair access to the anchorage grounds. These amendments will improve navigation, provide a safer anchorage area, and minimize negative impacts on the environment by giving the vessels one specified anchorage location.

Regulatory Evaluation

This proposed rule is not a ''significant regulatory action'' under section 3(f) of Executive Order 12866, Regulatory Planning and Review, and does not require an assessment of potential costs and benefits under section 6(a)(3) of that Order. The Office of Management and Budget has not reviewed it under that Order.

We expect the economic impact of this proposed rule to be so minimal that a full Regulatory Evaluation is unnecessary. The existing commercial anchorage is used by container vessels, tank vessels, and other general cargo vessels awaiting a berth in Port Everglades, Fort Lauderdale, Florida, and the new anchorage is expected to be used by the same type and number of vessels for the same purpose. The new proposed commercial anchorage will allow for enough anchorage space to sufficiently support operations in Port Everglades, and is expected to have little, if any, economic impact. This proposed regulation is expected to have little or no economic impact because all of the vessels previously using the anchorage will be able to continue using the new anchorage.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601–612), we have considered whether this proposed rule would have a significant economic impact on a substantial number of small entities. The term ''small entities'' comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000.

This proposed rule may affect the following entities, some of which might be small entities: The owners or operators of vessels intending to utilize the anchorage area outside Port Everglades, Florida. This proposed rule would not have significant economic impact on a substantial number of small entities for the same reasons given above in the ''Regulatory Evaluation'' section of this preamble.

The Coast Guard certifies under 5 U.S.C. 605(b) that this proposed rule would not have a significant economic impact on a substantial number of small entities. If you think that your business, organization, or governmental jurisdiction qualifies as a small entity and that this rule would have a significant economic impact on it, please submit a comment (see **ADDRESSES**) explaining why you think it qualifies and how and to what degree this rule would economically affect it.

Assistance for Small Entities

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121), we want to assist small entities in understanding this proposed rule so that they can better evaluate its effects on them and participate in the rulemaking. If the rule would affect your small business, organization, or governmental jurisdiction and you have questions concerning its provisions or options for compliance, please contact Lieutenant Junior Grade Chris Svencer, Coast Guard Sector Miami, Waterways Management Division at (305) 535–4550. The Coast Guard will not retaliate against small entities that question or complain about this rule or any policy or action of the Coast Guard.

Collection of Information

This proposed rule would call for no new collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3520.).

Federalism

A rule has implications for federalism under Executive Order 13132, Federalism, if it has a substantial direct effect on State or local governments and would either preempt State law or impose a substantial direct cost of compliance on them. We have analyzed this proposed rule under that Order and have determined that it does not have implications for federalism.

Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531–1538) requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or tribal government, in the

aggregate, or by the private sector of $100,000,000 or more in any one year. Though this proposed rule will not result in such an expenditure, we do discuss the effects of this rule elsewhere in this preamble.

Taking of Private Property

This proposed rule would not affect a taking of private property or otherwise have taking implications under Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights.

Civil Justice Reform

This proposed rule meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

Protection of Children

We have analyzed this proposed rule under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. This rule is not an economically significant rule and would not create an environmental risk to health or risk to safety that might disproportionately affect children.

Indian Tribal Governments

This proposed rule does not have tribal implications under Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, because it would not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

Energy Effects

We have analyzed this proposed rule under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. We have determined that it is not a ''significant energy action'' under that order because it is not a ''significant regulatory action'' under Executive Order 12866 and is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The Administrator of the Office of Information and Regulatory Affairs has not designated it as a significant energy action. Therefore, it does not require a Statement of Energy Effects under Executive Order 13211.

Technical Standards

The National Technology Transfer and Advancement Act (NTTAA) (15 U.S.C. 272 note) directs agencies to use voluntary consensus standards in their regulatory activities unless the agency provides Congress, through the Office of Management and Budget, with an explanation of why using these standards would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., specifications of materials, performance, design, or operation; test methods; sampling procedures; and related management systems practices) that are developed or adopted by voluntary consensus standards bodies.

This proposed rule does not use technical standards. Therefore, we did not consider the use of voluntary consensus standards.

Environment

We have analyzed this proposed rule under Commandant Instruction M16475.lD which guides the Coast Guard in complying with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321–4370f), and although this action may have qualified for a categorical exclusion under figure 2–1, paragraph (34)(f) of the Instruction, the Coast Guard found good reason to further investigate the effects the anchorage area modification would have on the environment. A preliminary ''Environmental Analysis Check List'' is available in the docket where indicated under **ADDRESSES**. Furthermore, as part of section 7 of the Endangered Species Act (50 CFR part 402, 16 U.S.C. 1536), the U.S. Coast Guard opened consultation with a number of stakeholders. The National Oceanic and Atmospheric Administration (NOAA), the National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (FWS) have reviewed all restructuring plans and believe the proposed action would not likely affect the West Indian Manatee, Johnson's Seagrass, Smalltooth Sawfish, and all local turtle species because the project does not have any elements with the potential to affect these listed species. NOAA also found that the restructuring into deeper waters, farther away from the easternmost reef, is likely to have an indirect beneficial effect on Elkhorn and Staghorn coral by potentially reducing vessel groundings and anchor damage that have adversely affected corals and other important near shore benthic resources in the project area. Comments on this section will be considered before we make the final decision on whether this rule should be categorically excluded from further environmental review.

List of Subjects in 33 CFR Part 110

Anchorage grounds.

For the reasons discussed in the preamble, the Coast Guard proposes to amend 33 CFR part 110 as follows:

PART 110—ANCHORAGE REGULATIONS

1. The authority citation for part 110 continues to read as follows:

Authority: 33 U.S.C. 471, 1221 through 1236, 2030, 2035, 2071; 33 CFR 1.05–1; Department of Homeland Security Delegation No. 0170.

2. Amend § 110.186 by revising paragraphs (a), (b)(3) through (6), and adding paragraphs (b)(7) through (9) to read as follows:

§ 110.186 Port Everglades, Florida.

(a) The anchorage grounds. The anchorage grounds, the center of which is located approximately two and one half miles northeast of the entrance to Port Everglades, is an area bounded by a line connecting points with the following North American Datum 83 coordinates:

26–08′26.934″ N 080–04′28.240″ W
26–08′08.560″ N 080–04′16.158″ W
26–07′56.000″ N 080–04′17.486″ W
26–07′56.000″ N 080–02′42.623″ W
26–07′19.500″ N 080–02′53.153″ W
26–07′19.500″ N 080–04′28.800″ W
26–06′35.160″ N 080–04′28.800″ W
26–06′35.160″ N 080–04′38.694″ W

(b) The regulations.

* * * * *

(3) All vessels within the designated anchorage area shall maintain a 24-hour bridge watch by a licensed deck officer proficient in English, monitoring VHF-FM channel 16. This individual shall confirm that the ship's crew performs frequent checks of the vessel's position to ensure the vessel is not dragging anchor.

(4) Vessels may anchor anywhere within the designated anchorage area provided that: such anchoring does not interfere with the operations of any other vessels currently at anchorage; and all anchor and chain or cable is positioned in such a manner to preclude dragging over reefs.

(5) No vessel may anchor in a ''dead ship'' status (i.e. propulsion or control unavailable for normal operations) without the prior approval of the Captain of the Port. Vessels experiencing casualties such as a main propulsion, main steering or anchoring equipment malfunction or which are planning to perform main propulsion

engine repairs or maintenance, shall immediately notify the Coast Guard Captain of the Port via Coast Guard Sector Miami on VHF-FM Channel 16.

(6) No vessel may anchor within the designated anchorage for more than 72 hours without the prior approval of the Captain of the Port. To obtain this approval, contact the Coast Guard Captain of the Port, via the Port Everglades Harbor Master, on VHF-FM Channel 14.

(7) The Coast Guard Captain of the Port may close the anchorage area and direct vessels to depart the anchorage during periods of adverse weather or at other times as deemed necessary in the interest of port safety or security.

(8) Commercial vessels anchoring under emergency circumstances outside the anchorage area shall shift to new positions within the anchorage area immediately after the emergency ceases.

(9) Whenever the maritime or commercial interests of the United States so require, the Captain of the Port, U.S. Coast Guard, Miami, Florida, may direct relocation of any vessel anchored within the anchorage area. Once directed, such vessel must get underway at once or signal for a tug, and must change position as directed.

Dated: October 4, 2007.

D.W. Kunkel,

Rear Admiral, U.S. Coast Guard Commander, Seventh Coast Guard District.

[FR Doc. E7–20608 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–15–P

DEPARTMENT OF EDUCATION

34 CFR Chapter VI

Office of Postsecondary Education; Notice of Negotiated Rulemaking for Programs Authorized Under Title IV of the Higher Education Act of 1965, as Amended

AGENCY: Department of Education.

ACTION: Notice of establishment of negotiated rulemaking committee.

SUMMARY: We announce our intention to establish one or two negotiated rulemaking committees to prepare proposed regulations under Title IV of the Higher Education Act of 1965, as amended (HEA). Each committee will include representatives of organizations or groups with interests that are significantly affected by the subject matter of the proposed regulations. We also announce three public hearings where interested parties can suggest issues that should be considered for action by the negotiating committees. In addition, we request nominations for individual negotiators who represent key stakeholder constituencies that are involved in the student financial assistance programs authorized under Title IV of the HEA to serve on these committees.

DATES: We must receive your nominations for negotiators to serve on the committees on or before November 29, 2007. The dates, times, and locations of the public hearings are listed under the **SUPPLEMENTARY INFORMATION** section of this notice.

ADDRESSES: Please send your nominations for negotiators to Patty Chase, U.S. Department of Education, 1990 K Street, NW., room 8050, Washington, DC 20006, or by fax to Patty Chase at (202) 502–7874. You may also e-mail your nominations to: *Patty.Chase@ed.gov.* Those nominated will be notified via letter as to whether or not they have been selected as a negotiator as soon as the Department's review process is completed.

FOR FURTHER INFORMATION CONTACT: For information about the hearings and the nomination submission process, contact: Patty Chase, U.S. Department of Education, 1990 K Street, NW., room 8050, Washington, DC 20006. Telephone: (202) 502–7905. You may also e-mail your questions about the hearings and the nomination submission process to: *Patty.Chase@ed.gov.*

For information about negotiated rulemaking in general, contact: John Kolotos, U.S. Department of Education, 1990 K Street, NW., room 8018, Washington, DC 20006. Telephone (202) 502–7762. You may also e-mail your questions about negotiated rulemaking to: *John.Kolotos@ed.gov.*

If you use a telecommunications device for the deaf (TDD), call the Federal Relay Service (FRS), toll free at 1–800–877–8339.

Individuals with disabilities can obtain this document in an alternative format (*e.g.*, Braille, large print, audiotape, or computer diskette) by contacting the person responsible for information about the hearings and the nomination submission process listed in this section under **FOR FURTHER INFORMATION CONTACT**.

SUPPLEMENTARY INFORMATION: Section 492 of the HEA requires that, before publishing any proposed regulations to implement programs authorized under Title IV of the HEA, the Secretary obtain public involvement in the development of the proposed regulations. After obtaining advice and recommendations from the public, the Secretary uses a negotiated rulemaking process to develop the proposed regulations.

We intend to develop proposed regulations by following the negotiated rulemaking procedures in section 492 of the HEA. We intend to select participants for the negotiated rulemaking committees that represent the interests significantly affected by the proposed regulations. To the extent possible, we will select individual negotiators who reflect the diversity among program participants, in accordance with section 492(b)(1) of the HEA.

Regulatory Issues

We intend to conduct negotiated rulemaking to develop proposed regulations for the new TEACH Grant program, which was added to Title IV of the HEA by the College Cost Reduction and Access Act of 2007 (CCRAA), Pub. L. 110–84. We will also address regulatory changes that will be needed for the Federal Family Education Loan Program (FFEL) and the William D. Ford Direct Loan Program resulting from the enactment of the CCRAA including, but not limited to: rules for income-based repayment; changes to the maximum repayment period; reductions to the lender insurance rates and loan forgiveness for public service employees; and definitions of terms used in the programs. We will also consider whether the regulations need to be amended to implement or reflect Pub. L. 110–93, which made permanent the Secretary's authority under the Higher Education Relief Opportunities for Students Act of 2003 (HEROES Act).

We note that there is legislation currently pending in Congress to reauthorize the HEA. If reauthorization of the HEA is completed prior to the first negotiating session, we may also include on the negotiating agenda additional changes to the regulations that may be needed.

We also expect to conduct negotiated rulemaking on other regulatory issues. These may include issues raised by the public during the regional hearings. Other issues the Department identifies as necessary to improve program administration and accountability will also be negotiated, including potential Federal preemption of State laws that may conflict with the Department's regulations on improper inducements and the use of preferred lender lists in the FFEL program.

We may also consider the establishment of competitive preference priorities within the Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) program.

Structure of the Committees

We anticipate having one or two negotiating committees based upon the nature of the topics to be negotiated. The number of committees and their organization will be determined as necessary, depending upon the comments received as a result of this notice. If one negotiating committee is established, it will address all of the regulatory issues that we identify. If two negotiating committees are established, one negotiating committee would address issues related to the Federal student loan programs authorized by Title IV, Parts B and D of the HEA and the other committee would focus on TEACH Grants and other issues.

Our goal is to establish committees that will allow significantly affected parties to be represented while keeping the committees' size manageable.

We strongly encourage nominations of individuals from coalitions of individuals and organizations representing the constituencies identified below. Moreover, the Department encourages nominations of individuals who are actively involved in administering the Federal programs that are the subject of these negotiated rulemaking sessions and who can represent the interests of groups that are significantly affected by the regulations. The committee or committees can create subgroups to discuss particular topics, such as TEACH Grants, Income-Based Repayment, or the definition of a non-profit holder. The subgroup can also involve in its discussions additional individuals who are not members of the committees. Individuals who are not selected as members of a committee can attend committee meetings, access the individuals representing their constituencies, and participate in informal working groups on various issues between the meetings. Committee meetings will be open to the public.

We have identified the following constituencies as having interests that are significantly affected by the subject matter of the negotiated rulemaking process. The Department anticipates that individuals representing each of these constituencies will participate as members of one or more of the negotiated rulemaking committees. These constituencies are:

- Students.
- Legal assistance organizations that represent students.
- Financial aid administrators at institutions of higher education.
- Business officers and bursars at institutions of higher education.
- Institutional servicers (including collection agencies).
- Trustees.
- State higher education executive officers.
- State Attorneys General and other appropriate State officials.
- Business and industry.
- Institutions of higher education eligible to receive Federal assistance under Title III, Parts A and B, and Title V of the HEA, which include Historically Black Colleges and Universities, Hispanic-Serving Institutions, American Indian Tribally Controlled Colleges and Universities, Alaska Native and Native Hawaiian-Serving Institutions, and other institutions with a substantial enrollment of needy students as defined in Title III of the HEA.
- Two-year public institutions of higher education.
- Four-year public institutions of higher education.
- Private, non-profit institutions of higher education.
- Private, for-profit institutions of higher education.
- Institutions of higher education that prepare teachers.
- Organizations that represent teachers.
- Guaranty agencies and guaranty agency servicers (including collection agencies).
- Lenders, secondary markets, and loan servicers.
- Accrediting agencies.

While an individual selected to represent a constituency may be an employee, official, or representative of a specific group, institution, or industry participant, the individual will be expected to represent the interests of the entire constituency that the individual has been designated to represent on the committee and to confer with other individuals and representatives of groups within that constituency.

Nominations should include the following information:

- The name of the nominee, the organization the individual works for, if any, and a description of the interests that the individual represents.
- Evidence of support from individuals or groups of the constituency that the nominee will represent.
- The nominee's commitment that the nominee will actively participate in good faith in the development of the proposed regulations.
- The nominee's contact information, including address, phone number, fax number, and e-mail address.

Schedule for Negotiations

We anticipate that the negotiating committee(s) will meet in the Washington, DC, area three or more times beginning in January 2008 and concluding no later than April 2008. The dates and locations of these meetings will be published in a subsequent notice in the **Federal Register**, and will be posted on the Department's Web site at: *http://www.ed.gov/policy/highered/reg/hearulemaking/2008/index2008.html*.

We will post the schedule for negotiations on this same Web site. Each committee must use electronic mail to exchange documents and discuss proposals between meetings. We anticipate that the schedule will allow sufficient time for us to provide the public with a 60-day comment period for the proposed regulations resulting from the negotiated rulemaking process and sufficient time to address any issues raised in the comment period, while meeting the November 1 statutory deadline for publishing student financial assistance final regulations.

Regional Hearings

We will hold three public regional hearings for interested parties to discuss the agenda for the negotiated rulemaking sessions. These hearings will be held on—

November 2, 2007, at the Sheraton New Orleans, 500 Canal Street, in New Orleans, Louisiana;

November 16, 2007, at the U.S. Department of Education in Washington, DC; and

November 29, 2007, at the Manchester Grand Hyatt San Diego, One Market Place, San Diego, California.

The regional hearings in New Orleans and San Diego will be held from 11 a.m.–3 p.m., local time. The hearing in Washington, DC will be held from 9 a.m.–4 p.m., local time.

Individuals desiring to present comments at the hearings are encouraged to do so. It is likely that each participant choosing to make a statement will be limited to five minutes. Individuals interested in making oral statements will be able to register to make a statement beginning at 10 a.m. for the regional hearings and at 8:30 a.m. on the day of the Washington hearing at the Department's on-site registration table on a first-come, first-served basis. If additional time slots remain, individuals may be given additional time to speak. If no time slots remain, the Department has reserved one additional hour at the end of the day for individuals who were not able to register to speak. The amount of time available will depend upon the number of individuals who register to speak. Speakers may also submit written comments.

In addition, for anyone unable to attend any of the regional hearings, the Department will also accept written comments. You should send your comments to: John Kolotos, U.S. Department of Education, 1990 K Street, NW., room 8018, Washington, DC 20006. All comments must be received by November 29, 2007.

All of the hearing sites are accessible to individuals with disabilities. Individuals needing an auxiliary aid or service to participate in the meeting (e.g., interpreting service, assistive listening device, or materials in alternative format), should notify the contact person for information about hearings listed under **FOR FURTHER INFORMATION CONTACT** in this notice in advance of the scheduled meeting date. Although we will attempt to meet any request we receive, we may not be able to make available the requested auxiliary aid or service because of insufficient time to arrange it. Further information on the regional hearing sites is available on *http://www.ed.gov/policy/highered/reg/hearulemaking/2008/index2008.html*.

Electronic Access to This Document: You can view this document, as well as all other documents of this Department published in the **Federal Register**, in text or Adobe Portable Document Format (PDF) on the Internet at the following site: *http://www.ed.gov/news/federalregister*.

To use PDF you must have Adobe Acrobat Reader, which is available free at this site. If you have questions about using PDF, call the U.S. Government Printing Office (GPO), toll free, at 1–888–293–6498; or in the Washington, DC area at (202) 512–1530.

Note: The official version of this document is the document published in the **Federal Register**. Free Internet access to the official edition of the **Federal Register** and the Code of Federal Regulations is available on GPO Access at: *http://www.gpoaccess.gov/nara/index.html*.

Program Authority: 20 U.S.C. 1098a.

Dated: October 17, 2007.

Diane Auer Jones,

Assistant Secretary for Postsecondary Education.

[FR Doc. E7–20785 Filed 10–19–07; 8:45 am]

BILLING CODE 4000–01–P

DEPARTMENT OF AGRICULTURE

Forest Service

36 CFR Part 223

RIN 0596–AB81

Sale and Disposal of National Forest System Timber; Special Forest Products and Forest Botanical Products

AGENCY: Forest Service, USDA.

ACTION: Proposed rule; request for comment.

SUMMARY: The Department is issuing this proposed rule governing the disposal of special forest products from National Forest System lands. Special forest products include, but are not limited to, wildflowers, mushrooms, moss, nuts, seeds, tree sap, and Christmas trees. This proposed rule also formally establishes a pilot program to charge and collect fees for the harvest and sale of forest botanical products on National Forest System lands. This proposed rule is intended to facilitate sustainable harvest of special forest products and forest botanical products. Public comment is invited and will be considered in the development of the final rule.

DATES: Comments must be received in writing by December 21, 2007.

ADDRESSES: Send written comments to Director, Forest Management Staff, USDA Forest Service, Mail Stop 1105, 1400 Independence Avenue, SW., Washington, DC 20250–1105, or by e-mail to *wospecialproducts@fs.fed.us.* Comments also may be submitted via the world wide web/Internet at *http://www.regulations.gov.* All comments, including names and addresses when provided, are placed in the record and are available for public inspection and copying at the Office of the Director, Forest Management Staff Third Floor NW., Yates Building, 201 14th Street, SW., Washington, DC. Persons wishing to inspect the comments are encouraged to call ahead (202) 205–1766 to facilitate entrance into the building.

FOR FURTHER INFORMATION CONTACT: Richard Fitzgerald, Forest Service, Forest Management Staff, (202) 205–1753.

SUPPLEMENTARY INFORMATION:

I. Introduction

This proposed rule adds Subparts G and H to 36 CFR part 223. Subpart G governs the commercial harvest and sale of special forest products and also establishes regulations for limited free use of these products. Subpart H, in turn, implements a pilot program for the harvest and sale of forest botanical products, as authorized by the Department of the Interior and Related Agencies Appropriations Act of 2000, (Pub. L. 106–113, Div. B, sec. 1000(a)(3), 113 Stat. 135 (enacting into law sec. 339 of Title III of H.R. 3423)), as amended in 2004 by section 335 of Public Law 108–108 (''the pilot program law''). Subpart H also contains regulations governing free, personal use of forest botanical products, as authorized under the pilot program law.

II. Background

A. Special Forest Products: Commercial Harvest and Sale and Free Use

1. Commercial Harvest and Sale

The Forest Service presently sells special forest products from National Forest System lands under the authorities contained in the Multiple-Use Sustained-Yield Act of 1960, as amended (16 U.S.C. 528–531); the National Forest Management Act of 1976, as amended (16 U.S.C. 472a *et seq.*), the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended (16 U.S.C. 1600–1614); and the timber sale regulations at 36 CFR part 223. Historically, timber-related products, such as firewood, posts, poles, and Christmas trees, have comprised most of the sales. However, the Forest Service also sells smaller amounts of non-timber special forest products, such as boughs, mushrooms, berries, and floral greeneries. On an annual basis, the total revenue from the sale of special forest products sold from National Forest System lands is approximately $3 million.

Sales of special forest products are relatively small-scale in comparison to timber sales. Purchasers are frequently individuals or small business, and most special forest product sales do not exceed $10,000 in value. Generally, these smaller sales are not sold through competitive bidding; rather, a prospective purchaser asks to harvest certain forest products, and either enters into a simplified contract with the Forest Service, or buys a permit that allows the purchaser to conduct operations. Consistent with existing regulations, the Forest Service follows competitive bidding procedures for sales of special forest products valued at $10,000, or more. The Forest Service presently uses the following standard documents for smaller sales: Permit FS–2400–1, Forest Products Removal Permit; Contract Forest Products FS–2400–3P for pre-measured products, and Contract FS–2400–4, Forest Products Contract. These documents contain

standard conditions and allow the parties to add provisions, as may be necessary given the conditions of the sale. For larger sales of special forest products, the Forest Service uses the standard timber sale contract, Contract FS–2400–6. The responsible Forest Officer selects the appropriate document in light of the value of the sale and other circumstances. The Forest Service anticipates that it will continue to use these standard documents after issuance of this proposed rule.

Over the past 10 years, public demand for both timber and non-timber special forest products has increased. Given this growing demand and the related need to ensure resource sustainability, the Forest Service has determined that it is impractical to continue to rely on the timber sale regulations and corresponding sections of the Forest Service Manual (FSM) and Handbook (FSH) to facilitate the sale of special forest products. Thus, the Forest Service has developed regulations specifically applicable to these products. The Forest Service is issuing this proposed rule to establish a new subpart G to 36 CFR part 223 to address fees, bidding, sustainability, and other issues associated with the commercial harvest and sale of special forest products. This framework, along with direction in the Forest Service Handbook 2409.18, Chapter 80 will govern commercial disposal of special forest products.

2. Free Use of Special Forest Products

This proposed rule also contains measures allowing for free use of special forest products. Historically, the agency has granted limited free use of these products to individuals and to members of federally-recognized Indian tribes holding reserved treaty gathering rights. The regulations will ensure that responsible Forest Officers administer free use of forest products uniformly across National Forest System lands and will provide greater transparency to the public. The Forest Service relies upon its broad multi-use mandate under the Multiple-Use Sustained-Yield Act of 1960, as amended, as authority for allowing free use of special forest products.

B. Forest Botanical Products: Commercial Harvest and Sale and Personal Use

1. Commercial Harvest and Sale

In recent years, bio-prospecting activities on National Forest System lands have increased. Bio-prospecting generally refers to gathering of natural products that have innate nutritional or medicinal properties for commercial development and sale. Historically, the Forest Service has addressed bio-prospecting activities under the same authority and regulations that it has applied to special forest products. However, in the pilot program law, Congress directed the Secretary to initiate a pilot program for charging and collecting fees for the harvest and sale of forest botanical products—such as mosses, fungi, bryophytes, roots, bulbs, berries, seeds, and wildflowers—which are often the focus of bio-prospecting activities. Accordingly, the Forest Service is establishing in this proposed rule a new subpart H to 36 CFR part 223 to formally govern the pilot program. For the duration of the program, these regulations will apply to the sale of this subset of special forest products.

The pilot program law provides a mechanism for funding the environmental analyses and administrative tasks necessary for its implementation. Generally, the law requires the agency to charge and collect a fee covering at least a portion of the fair market value of the products and a portion of the costs incurred by the agency in administering the program. The law specifies that retained funds shall be available for expenditure without further appropriation for activities associated with the program, through September 30, 2010.

Subpart H of this proposed rule will terminate on September 30, 2010, unless Congress extends the pilot program, or makes it permanent.

2. Personal Use of Forest Botanical Products

Section (e) of the pilot program law directs the Forest Service to permit limited, free use of forest botanical products. It mandates that the Forest Service establish a ''personal use harvest level'' for each product and directs that a person's harvest of a product below that level shall be exempt from otherwise applicable fees. Additionally, the law authorizes the Secretary to waive fees ''pursuant to such regulations as the Secretary may prescribe.'' For the duration of the pilot program, free use of forest botanical products shall be conducted under this mandate, and under additional waivers, as established by the Secretary.

III. Section-by-Section Analysis of the Proposed Rule

A. Subpart G—Special Forest Products

Section 223.215—Applicability. This section establishes that subpart G of part 223 governs the disposal of special forest products including both commercial operations and free use. However, for the duration of the pilot program covering forest botanical products, the disposal of this subset of special forest products shall also be subject to the requirements set forth in subpart H, which implements that program. Upon termination of the pilot program, all special forest products, including forest botanical products, shall be disposed of pursuant to subpart G.

Section 223.216—Definitions. This section sets out the definition of special forest products as used in this subpart and provides common examples of such products. The definition also lists other products that do not fall under the definition.

Section 223.217—Authority to dispose of special forest products. This section sets out the Forest Service's statutory authorities for the disposal of special forest products on National Forest System lands. For commercial harvest and sale, the agency relies upon three sources of authority: The Multiple-Use Sustained-Yield Act of 1960, as amended (16 U.S.C. 528–531); the National Forest Management Act of 1976, as amended (16 U.S.C. 472a *et seq.*), and the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended (16 U.S.C. 1600–1614). For example, the National Forest Management Act, 16 U.S.C. 472a, authorizes the Secretary to sell ''at not less than appraised value, trees, portions of trees, or forest products on National Forest Systems lands.'' In addition, the Multiple-Use Sustained-Yield Act of 1960, 16 U.S.C. 529, authorizes and directs the Secretary of Agriculture to ''develop and administer the renewable surface resources of the national forests for multiple use and sustained yield of the several products and services obtained therefrom.''

The Multiple-Use Sustained-Yield Act of 1960, as amended, provides authority for the agency to permit limited free use of special forest products. Under the Act, the Forest Service has expansive authority to manage National Forest System lands ''in the combination that will best meet the needs of the American people'' (16 U.S.C. 531). The Act identifies ''outdoor recreation,'' as one of several Congressional objectives that must inform the agency's management (16 U.S.C. 528). Thus, while the Forest Service must consider the ''relative values of the various resources,'' its multiple-use management is ''not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output'' (16 U.S.C. 531). Limited free use of special forest products, as a

recreational activity, is fully consistent with the objectives and obligations established under the Multiple-Use Sustained-Yield Act of 1960.

Section 223.218—Consistency with plans, environmental standards, and other management requirements. This section requires the disposal of special forest products on National Forest System lands to be consistent with applicable land management plans. This section also requires contracts, permits, or authorizing instruments to include provisions, as appropriate, addressing among other things: fire protection and suppression; protection of natural resources; regeneration of harvested products; and, minimization of soil erosion.

Section 223.219—Sustainable harvest of special forest products. This section generally requires the Forest Service to determine the sustainable harvest level for each naturally occurring special forest product prior to offering that product for sale or free use. (The requirement would not include ''man-made'' products such as mine props and rails.) The sustainable harvest level for a naturally occurring special forest product is the aggregate quantity of the product that may be disposed of from a National Forest annually in perpetuity on a sustained yield basis. Special forest products shall be disposed of in a manner that does not exceed the sustainable harvest level for the product. In the absence of a determined sustainable harvest level for a product, the Forest Service may nevertheless sell, or offer the product for free use under measures designed to protect its renewable resource values. These measures may include consideration of past harvest levels and regular monitoring of the product, the site, and the harvest operations. This section prohibits the Forest Service from issuing or approving contracts, permits, or instruments for disposal of special forest products that are listed as endangered or threatened, or that have been proposed or listed under The Endangered Species Act. This restriction would not apply when the disposal is authorized by the Fish and Wildlife Service for scientific or other purposes related to sustainability of species. Under these rare situations a permit from the Forest Service is also required. This section also identifies when the Forest Service may issue permits authorizing disposal of special forest products listed on the Convention on International Trade in Endangered Species (CITES), or included on the Regional Forester's sensitive plant list, or list of species of concern. Finally, this section provides for monitoring and revision of harvest levels.

Section 223.220—Quantity determination. This section describes the acceptable methods for determining the quantity of special forest products. The quantity may be determined by scaling, measuring, weighing, counting, or other reliable means.

Section 223.221—Establishing minimum rates. This section provides that the Chief of the Forest Service shall issue agency directives in Forest Service Handbook 2409.18, Chapter 80, containing approved methods for setting minimum rates for sale of special forest products.

Section 223.222—Appraisal. This section specifies that the Chief of the Forest Service shall issue agency directives setting forth methods for appraising special forest products to determine their fair market value. The directives shall be contained at Forest Service Handbook 2409.18, Chapter 80. It also provides that special forest products must be sold at minimum rates or appraised value, whichever is higher.

Section 223.223—Advance payment. This section establishes the requirement for advance payment or payment guarantee for special forest products. It also directs the Forest Service to refund advance payments found to be in excess of that needed by the United States, subject to obligations established under the Debt Collection Improvement Act.

Section 223.224—Performance bonds and security fees. This section authorizes the Forest Service to require a purchaser to post a performance bond or security fee in conjunction with special forest products sale contracts, permits, or other instruments.

Section 223.225—Contract, permit, and instrument term. In accordance with section 14(c) of the National Forest Management Act (16 U.S.C. 472a(c)), this section establishes that the term of any contract, permit, or other instrument authorizing the sale of special forest products may not exceed 10 years, unless the Chief of the Forest Service finds that a longer term is consistent with the Multiple-Use Sustained-Yield Act of 1960, as amended (16 U.S.C. 528–531). Any such finding by the Chief shall be made in writing.

Section 223.226—Adjustment of term of contract, permit, or other instrument for force majeure delay. This section provides that each contract, permit, or other instrument shall contain a provision allowing the Forest Service to extend the term in the event that circumstances beyond the purchaser's reasonable control delay performance. Such circumstances may include, but are not limited to acts of God, acts of public enemy, acts of Government, labor disputes, fires, insurrections, or floods. Before granting an adjustment, the approving officer must find that the purchaser has diligently performed in accordance with the contract, permit or other instrument, or that the substantial public interest justifies the extension.

Section 223.227—Sale advertisement. This section generally requires the Forest Service to advertise for at least 30 days any sale of special forest products which has an appraised value of $10,000, or more. For any sale with an appraised value under $10,000, the Forest Service may offer the sale without advertisement. Regardless of the value of the sale, the agency may sell special forest products without advertisement, or in its discretion, advertise for less than 30 days if (1) deterioration of the product threatens its value; (2) if the products were previously advertised for competitive bidding but were not sold because of an absence of satisfactory bids; or, (3) if the products remain from expired, cancelled, or abandoned contracts, permits, or other instruments. Under this section, if a potential purchaser approached the Forest Service and proposed to purchase special forest products valued at less than $10,000, then the Forest Service could proceed with the sale without advertising if there is absence of competitive interest.

Section 223.228—Contents of advertisement. This section sets forth the required contents of advertisements for special forest products sales. It requires the agency to provide information about the location and the estimated quantities of special forest products offered for sale, the time and place at which sealed bids will be opened in public, a provision asserting the agency's right to reject any and all bids, the place where complete information on the offering may be obtained, and notice that a prospectus is available to the public and to interested potential bidders.

Section 223.229—Contents of prospectus. This section establishes the minimum contents of a prospectus accompanying the sale of special forest products. A prospectus is required for all products which are to be advertised for sale.

Section 223.230—Bid restriction on resale of incomplete contracts, permits, or other instruments. This section prohibits the Forest Service from considering a bid from any person, or affiliate of such person, who failed to complete or defaulted the original contract, permit, or other instrument covering the products offered for sale.

The Forest Service may waive this prohibition when doing so would serve the public interest.

Section 223.231—Bidding methods. This section sets forth bidding methods and other requirements for the sale of special forest products from National Forest System lands. The Forest Service must use either sealed bidding, or sealed bidding followed by oral auction. The method used must ensure open and fair competition; that the Government receives not less than fair market value for the resource; and consistency with the National Forest Management Act and other federal laws. The section also requires the Chief of the Forest Service, or authorized designee, to use sealed bids, or a mix of bidding methods to guard against collusive bidding, if there is a reasonable belief that anticompetitive or abnormal bidding practices are occurring.

Section 223.232—Disclosure of relation to other bidders. This section authorizes the Forest Service to require any prospective purchaser of special forest products to disclose its relationship to other potential purchasers or operators.

Section 223.233—Award to highest bidder. This section requires the Forest Service to award an advertised sale of special forest products to the highest bidder whose bid conforms to the conditions of the sale, as set forth in the prospectus. If the highest bidder cannot meet the requirements under which the special forest products were advertised, then the Forest Service may offer the sale to the next highest conforming bidder at the high bid level, and so on, until the offer is either accepted, or refused by all qualified bidders. In the event of a tie between two or more conforming high bidders, the Forest Service shall make the award based upon the drawing of lots. This section also specifies that if the Forest Service does not accept the highest bid, then the Forest Service may reject all bids and readvertise the sale.

Section 223.234—Determination of purchaser responsibility. This section requires the Forest Service to make an affirmative determination of purchaser responsibility before awarding a contract, permit, or other instrument authorizing the sale of special forest products. It sets forth the factors that the Forest Service must consider in making this finding, including: That the purchaser has adequate financial resources to perform the contract or the ability to obtain them; that the purchaser is able to perform the contract within the contract term, taking into consideration all existing commercial and governmental business commitments; and that the purchaser has a satisfactory record of integrity and business ethics.

Section 223.235—Unilateral delay, suspension and modification of contracts, permits, or other instruments authorizing the sale of special forest products. This section establishes the conditions under which the Forest Service may unilaterally delay, suspend or modify a contract, permit, or other instrument governing the sale of special forest products. Pursuant to this section, the Forest has broad delay, suspension, and modification authority, in particular for circumstances related to protection of the environment or compliance with federal laws. The section provides that in the event of a delay, suspension, or modification, the Forest Service shall compensate a purchaser in accordance with the provisions of the relevant contract, permit, or instrument. In the absence of such provisions, the Forest Service may compensate the purchaser in accordance with agency methods and procedures in effect at the time of submission of the claim, but not to exceed 5 percent of the contract value of the unharvested permit products in which case the appropriate Forest Service officer shall give due consideration to the cause, duration, and financial impact of the delay, suspension, or modification. Compensation shall be awarded only if it is justified under applicable provisions or other relevant circumstances. If the provisions of the governing contract, permit, or instrument do not address the mechanics/procedure at claim submission, the rule provides that a purchaser must make a written submission that is fully supported by relevant documents. This requirement will assist Forest Service personnel in evaluating the merits of a claim and ensure that it is handled promptly. Because most harvests of special forest products are relatively small scale operations, the Forest Service believes that delays, suspensions, or modifications will arise infrequently, and that in such cases, the parties will be able to amicably resolve issues pertaining to compensation. The section also empowers Contracting Officers and/or their superiors to make decisions regarding delays, suspensions, or modifications.

Section 223.236—Unilateral termination. This section establishes the conditions under which the Forest Service may unilaterally terminate a contract, permit, or other instrument authorizing the sale of special forest products. Pursuant to this section, the agency has broad authority to terminate an agreement, in particular for circumstances related to protection of the environment, compliance with federal laws, or the purchaser's fitness and integrity. The section provides that in the event of a termination, the Forest Service shall compensate a purchaser in accordance with the provisions of the relevant contract, permit, or instrument, or, in the absence of such provisions, as described in the preceding section on delay, suspension, and modification. Again, compensation shall be awarded only if justified under applicable provisions or other relevant circumstances. However, compensation shall not be available when the Forest Service terminates a contract, permit, or instrument for reasons related to the purchaser's fitness, integrity, or breach of contract. The section also empowers contracting officers and/or their superiors to make decisions regarding terminations.

Section 223.237—Request by Purchaser for delay, suspension, modification, or termination. This section allows a purchaser to request delay, suspension, modification, or termination of their contract, permit or other authorizing instrument. It is designed primarily for smaller sales when the request is not covered by an agreement provision and when the circumstances warrant a mutually agreed upon resolution. In this case, the Forest Service may address the request in light of the supporting reasons offered by the purchaser and other relevant circumstances. A purchaser's request should have a plausible foundation, such as substantially changed market conditions, and should be submitted in writing with a detailed explanation of all relevant circumstances supporting the request. The Forest Service may deny a request, in whole or in part, in its discretion. When governing contract, permit, or instrument provisions would apply to the request, the Forest Service shall adhere to those provisions. The responsible Forest Officer, or his or her superior, shall have authority to respond to any request by the purchaser for delay, modification, suspension, or termination.

Section 223.238—Free use authorization to U.S. Army and Navy. This section authorizes Regional Foresters, by delegation from the Chief of the Forest Service, to approve the harvest of special forest products by the U.S. Army and Navy for the purposes identified at 16 U.S.C. 492.

Section 223.239—Free use by individuals. This section authorizes individuals to harvest special forest products from National Forest System

lands without charge. This section is not intended to affect subsistence uses implemented under the Alaska National Interest Lands Conservation Act, 16 U.S.C. 3101–3126.

An individual person may obtain authorization to harvest a special forest product for personal, non-commercial use in a quantity not to exceed the amount allowed by the appropriate Forest Service officer pursuant to 36 CFR 223.8. Unless the product is located in an area previously designated for free use, a person seeking to harvest a special forest product must obtain a ''free use'' permit prior to harvesting any such product and must comply with the requirements established by the Regional Forester or subordinate officer. A permit shall indicate the type, amount, and/or value of the products to be harvested and shall contain other related requirements and restrictions.

The permit request may be denied outright to ensure the personal safety of the individual, to prevent interference with Forest Service and/or commercial operations in the forest, to protect the product as a sustainable resource, and to otherwise protect the forest. The issuing officer or any superior officer may revoke a permit at any time.

Section 223.240—Indian tribes and treaty reserved gathering rights. This section acknowledges that Indian tribes with reserved treaty gathering rights have retained the right to harvest special forest products in accordance with the terms of such treaty rights. Such harvest by Indian tribes shall not be subject to the application and permit requirements pertaining to personal, non-commercial harvest by individuals. By this proposed rule, the Forest Service does not intend to interfere with Indian tribes' harvest of special forest products for traditional, ceremonial, and/or cultural purposes when such use is included as a treaty right. Additionally, this section does not prevent individual Indians from requesting free use of special forest products under section 223.239.

Section 223.241—Disposal of seized special forest products. This section authorizes the Forest Service to dispose of special forest products that have been illegally obtained from National Forest System lands through commercial sale or by offering such products for free use. The Forest Service may not sell such products to the entity that took them illegally. Additionally, the Forest Service shall not sell or dispose of seized special forest products that are threatened, endangered, or candidates for listing under the Endangered Species Act; that are listed on the Regional Forester's sensitive plant list or list of species of concern or interest; or identified by CITES as being prohibited from international sale or trade. Seized special forest products that are threatened, endangered, proposed or candidates for listing under the Endangered Species Act, that are on the Regional Forester's sensitive plant list or list of species of concern, or interest, or prohibited from international sale or trade may be donated to a recognized scientific institution or university for educational or research purposes. In the absence of commercial interest in a seized product, the Forest Service may offer the product for free use to individuals, to Indian tribes with reserved treaty gathering rights, or to other federally-recognized tribes.

B. Subpart H—Forest Botanical Products

Section 223.275—Establishment of a pilot program. Subpart H to 36 CFR Part 223 governs the pilot program for the sale and harvest of forest botanical products, as required by the Pilot Program Law. This subpart also implements the free, personal use mandate contained in the pilot program law. Reflecting the limited duration of the program, the section indicates that Forest Service may collect fees through fiscal year 2009, which ends September 30, 2009.

Section 223.276—Applicability. This section establishes that the pilot program applies to the disposal of forest botanical products from National Forest System lands. However, rather than developing and implementing redundant procedures applicable solely to disposal of forest botanical products for the limited duration of the program, the Forest Service shall use the procedures set forth in subpart G. Thus, the Forest Service's treatment of forest botanical products will differ from its treatment of special forest products only to the extent that the pilot program requires segregation of fees and that personal use differs from free use practices. Other aspects of the pilot program, for example those pertaining to prices, bidding, and sustainability, shall be accomplished through forest products regulations and associated Forest Service directives.

Section 223.277—Definitions. This section defines forest botanical products and provides examples of products that fall within the definition.

Section 223.278—Collection of fees. This section governs the Forest Service's charging and collection of fees for the harvest of forest botanical products from National Forest System lands. It directs that fees charged for forest botanical products shall cover at least a portion of the products' fair market value and a portion of the costs associated with administering the program. Thus, when forest botanical products are sold through the procedures established under subpart G, the selling price shall incorporate the collection requirements of section (c)(1) of the Law; a portion of the products' fair market value and program administrative costs will be built into the price.

Despite the Act's requirement that the Forest Service establish methods and procedures for the sale of forest botanical products, the Forest Service believes that these products may be sold without advertisement under the circumstances provided under 36 CFR part 223.227, which reflects 16 U.S.C. 472a(d).

Section 223.279—Personal use harvest levels and waiver of fees. This section implements the free personal use authority set forth in section (e)(1) of the pilot program law. The regulation provides that the Forest Service shall not collect fees for a person's harvest of forest botanical products at or below established personal use harvest levels. Regional Foresters shall establish personal use harvest levels by type and quantity, or by value through supplements to the Forest Service Directive System. Personal use harvest levels will be consistent with sustainable harvest levels. A person seeking free use of a forest botanical product subject to personal use harvest levels must submit an application to the appropriate Forest Service officer and obtain a permit, as provided in section 223.239 of subpart G. For the duration of the pilot program, free use of forest botanical products shall be limited to personal use harvest levels.

Additionally, in this section, the Chief of the Forest Service employs waiver authority under the section (e)(2) of the Act to waive otherwise applicable fees for the harvest of forest botanical products by federally recognized Indian tribes. Tribal free use of forest botanical products must be non-commercial, and for cultural, ceremonial and/or traditional purposes. The regulation also provides that a Regional Forester or Forest Supervisor, having proper authorization from the Chief of the Forest Service, may waive application of a fee to allow harvest of forest botanical products for scientific research or for salvage when other management activities will destroy or damage the product. The waiver decision must be in writing.

Section 223.280—Monitoring and revising of harvest levels. This section provides that monitoring and revising of harvest levels for forest botanical products, as required under the pilot

program, shall be accomplished pursuant to the regulation at 36 CFR part 223.219.

Section 223.281—Disposition of collected fees. This section governs the accounting and expenditure of fees collected under the pilot program and follows the requirements set forth in sections (f) and (h) of the Act.

IV. Conclusion

The regulations contained in this proposed rule will allow the Forest Service to manage better its program for the disposal of special forest products, through commercial harvest and sale and free use, and to implement a pilot program for charging and collecting fees for harvest of forest botanical products, pursuant to the pilot program law.

Regulatory Certifications

Regulatory Impact

This proposed rule has been reviewed under USDA procedures and Executive Order 12866 on Regulatory Planning and Review as amended by 13422. OMB has determined that this is not a significant rule. This proposed rule will not have an annual effect of $100 million or more on the economy nor adversely affect productivity, competition, jobs, the environment, public health or safety, nor State or local governments. This proposed rule will not interfere with an action taken or planned by another agency nor raise new legal or policy issues. Finally, this action will not alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients of such programs. Accordingly, this proposed rule is not subject to OMB review under Executive Order 12866.

Proper Consideration of Small Entities

This proposed rule has been considered in light of Executive Order 13272 regarding consideration of small entities and the Small Business Regulatory Enforcement Act of 1996 (SBREFA), which amended the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). It has been determined that this action will not have a significant economic impact on a substantial number of small entities as defined by the Executive Order. The proposed rule will have no adverse impact on small business, small not-for-profit organizations, or small units of government.

Environmental Impact

This proposed rule has no direct or indirect effect on the environment. Section 31.1b of Forest Service Handbook 1909.15 (57 FR 43180; September 18, 1992) excludes from documentation in an environmental assessment or impact statement rules, regulations, or policies to establish Service-wide administrative procedures, program processes, or instructions that do not significantly affect the quality of the human environment. The Department's assessment is that this proposed rule falls within this category of actions, and that no extraordinary circumstances exist that would require preparation of an environmental assessment or environmental impact statement.

No Takings Implications

This proposed rule has been analyzed in accordance with the principles and criteria contained in Executive Order 12360, and it has been determined that this action will not pose the risk of a taking of private property.

Civil Justice Reform

This proposed rule has been reviewed under Executive Order 12988, Civil Justice Reform. When the final rule is adopted, (1) all State and local laws and regulations that conflict with the final rule or that would impede full implementation of this rule will be preempted, (2) no retroactive effect will be given to the final rule; and (3), the Department will not require the use of administrative proceedings before parties could file suit in court challenging its provisions.

Unfunded Mandates

Pursuant to Title II of the Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531–1538), which the President signed into law on March 22, 1995, the Department has assessed the effects of this proposed rule on State, local, and tribal governments and the private sector. This action will not compel the expenditure of $100 million or more by any State, local, or tribal government or anyone in the private sector. Therefore, a statement under section 202 of the Act is not required.

Federalism

The Department has considered this proposed rule under the requirements of Executive Order 13132, Federalism, and concluded that this action will not have substantial direct effects on the States, on the relationship between the Federal government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, the Department has determined that no further assessment of federalism implications is necessary at this time.

Consultation and Coordination With Indian Tribal Governments

Pursuant to Executive Order 13175, Consultation and Coordination With Indian Tribal Governments, the Forest Service conducted a preliminary assessment of the impact of this proposed rule on Indian Tribal Governments and it determined that the rule does have tribal implications. Therefore, advance consultation with Tribes was required.

Consultation in the form of opportunity to review and comment on these regulations and accompanying Forest Service Handbook direction was provided to all interested Tribes in all Forest Service Regions. Regional Foresters and Forest Supervisors determined which Tribes could be affected by these regulations and initiated consultations with Tribal representatives. A 60-day comment period was established, however many Tribes asked for additional time for consultation, which was granted. Recommendations from the Tribes have been incorporated, as appropriate, into this proposed rule.

During consultation, it became apparent that the Tribes were concerned about their existing statutory authority, or lack thereof, to gather special forest products for cultural, ceremonial, and/or traditional purposes at no charge. The Tribes believed that current law does not meet their needs. In October 1999, the Chief Operations Officer of the Forest Service commissioned a National Tribal Relations Program Task Force to develop recommendations to improve working relationships with the Tribes. The task force report concluded that free use opportunities offered by the Forest Service were inconsistent with access provided by other government agencies. The report recommended development of legislation that more readily enables the Forest Service to provide free use of forest products to Tribes. The Chief of the Forest Service accepted the recommendation and efforts are underway to advance legislation that would empower the Forest Service to provide products free of charge to Tribes for cultural, traditional, and customary purposes. The proposed legislation has been drafted and is currently in legislative clearance. Tribes may also review and comment on this proposed rule.

Controlling Paperwork Burdens on the Public

This proposed rule does not contain any recordkeeping or reporting requirements or other information collection requirements as defined in 5

CFR part 1320, and therefore, imposes no paperwork burden on the public. Accordingly, the review provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) and implementing regulations at 5 CFR part 1320 do not apply.

Energy Effects

This proposed rule has been reviewed under Executive Order 13211 of May 18, 2001, and it has been determined that it has no effect on the supply, distribution, or use of energy. This proposed rule is administrative in nature and, therefore, the preparation of a statement of energy effects is not required.

List of Subjects 36 CFR Part 223

Administrative practice and procedure, Exports, Forests and forest products, Government contracts, National forests, Reporting and recordkeeping requirements.

For the reasons set forth in the preamble, the Forest Service, U.S. Department of Agriculture, proposes to amend 36 CFR part 223 as follows:

PART 223—SALE AND DISPOSAL OF NATIONAL FOREST SYSTEM TIMBER, SPECIAL FOREST PRODUCTS, AND FOREST BOTANICAL PRODUCTS

1. The authority citation for part 223 is amended to read as follows:

Authority: 90 Stat. 2958, 16 U.S.C. 472a; 98 Stat. 2213, 16 U.S.C. 618, 104 Stat. 714–726, 16 U.S.C. 620–620j, 113 Stat. 1501a, 16 U.S.C. 528 note; unless otherwise noted.

2. Revise the part heading as shown above.

3. Add subparts G and H to read as follows:

Subpart G—Special Forest Products

Sec.
223.215 Applicability.
223.216 Definitions.
223.217 Authority to dispose of special forest products.
223.218 Consistency with plans, environmental standards, and other management requirements.
223.219 Sustainable harvest of special forest products.
223.220 Quantity determination.

Appraisal and Pricing

223.221 Establishing minimum rates.
223.222 Appraisal.

Contract and permit Conditions and Provisions

223.223 Advance payment.
223.224 Performance bonds and security fees.
223.225 Contract, permit, and instrument term.
223.226 Adjustment of term of contract, permit, or other instrument for force majeure delay.

Advertisement and Bids

223.227 Sale advertisement.
223.228 Contents of advertisement.
223.229 Contents of prospectus.
223.230 Bid restriction on resale of incomplete contracts, permits, or other instruments.
223.231 Bidding methods.
223.232 Disclosure of relation to other bidders.

Award of Contracts, Permits, or Other Instruments

223.233 Award to highest bidder.
223.234 Determination of purchaser responsibility.
223.235 Unilateral delay, suspension, or modification of contracts, permits, or other instruments authorizing the sale of special forest products.
223.236 Unilateral termination.
223.237 Request by Purchaser for delay, suspension, modification, or termination.
223.238 Free use authorization to U.S. Army and Navy.
223.239 Free use by individuals.
223.240 Indian tribes and treaty reserved gathering rights.
223.241 Disposal of seized special forest products.

Subpart H—Forest Botanical Products

223.275 Establishment of a pilot program.
223.276 Applicability.
223.277 Definitions.
223.278 Collection of fees.
223.279 Personal use harvest levels and waiver of fees.
223.280 Monitoring and revising of harvest levels.
223.281 Disposition of collected fees.

Subpart G—Special Forest Products

§ 223.215 Applicability.

The regulations contained in this subpart govern the disposal of special forest products from National Forest System lands through commercial harvest and sale and free use. During the duration of the pilot program for the sale of forest botanical products, pursuant to the Department of the Interior and Related Agencies Appropriations Act of 2000, (Pub. L. 106–113, Div. B, sec. 1000(a)(3), 113 Stat. 135 (enacting into law sec. 339 of Title III of H.R. 3423)), as amended in 2004 by Section 335 of Public Law 108–108–, special forest products that are also forest botanical products shall be sold, or offered for free use, subject to the requirements of subpart H of this part. A commercial sale of special forest products shall be governed by a contract, permit, or other authorizing instrument. Free use shall be conducted under a permit, unless this requirement has been waived.

§ 223.216 Definitions.

As used in this subpart, the following term shall mean:

Special forest products: Products collected from National Forest System lands for commercial, personal, tribal, educational, or scientific purposes, including without limitation: bark, berries, boughs, bryophytes, bulbs, burls, Christmas trees, cones, ferns, firewood, forbs, fungi (including mushrooms), grasses, mosses, nuts, pine straw, roots, sedges, seeds, transplants, tree sap, wildflowers, fence material, mine props, posts and poles, shingle and shake bolts, and rails. The term *special forest products* does not include sawtimber, pulpwood, non-sawlog material removed in log form, cull logs, small roundwood, house logs, telephone poles, derrick poles, minerals, animals, animal parts, insects, worms, rocks, water, and soil.

§ 223.217 Authority to dispose of special forest products.

The Forest Service has authority to dispose of special forest products located on National Forest System lands pursuant to the Multiple-Use Sustained-Yield Act of 1960, as amended (16 U.S.C. 528–531); the National Forest Management Act of 1976, as amended (16 U.S.C. 472a *et seq.*); and, the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended (16 U.S.C. 1600–1614).

§ 223.218 Consistency with plans, environmental standards, and other management requirements.

The disposal of special forest products from National Forest System lands shall be consistent with applicable land management plans. Each contract, permit, or other instrument shall include, as appropriate, provisions requiring the purchaser or user to:

(a) Provide fire protection and suppression;

(b) Protect natural resources;

(c) Regenerate harvested species after harvesting operations;

(d) Minimize soil erosion;

(e) Maintain favorable conditions of water flow and quality;

(f) Minimize adverse effects on, protect, or enhance other national forest resources, uses, and improvements; and

(g) Deposit voucher specimens to a curator of a nationally recognized herbarium in North America as identified in the *Index Herbariorum* for all permits authorizing bioprospecting.

§ 223.219 Sustainable harvest of special forest products.

(a) *Sustainable harvest levels.* Prior to offering special forest product for sale or free use, the responsible officer shall determine the sustainable harvest level for the product. The sustainable harvest

level for a special forest product is the total quantity of the product that can be harvested annually in perpetuity on a sustained yield basis. Responsible officers shall not authorize harvest of special forest products in an amount exceeding known sustainable harvest levels. In determining a sustainable harvest level, the responsible officer may consider harvest levels of the product for the previous three years, if such information is available.

(b) *Harvest of protected species.* No contract, permit, or other authorizing instrument may be issued or approved under this subpart for a species listed by the U.S. Fish and Wildlife Service as endangered or threatened, or that has been proposed for listing under the Endangered Species Act, except as authorized by that Service. Moreover, Regional guidelines will identify the conditions when a contract, permit, or instrument may be issued or approved for any product listed on the Regional Forester's sensitive plant list, species of concern list, or *species of interest list,* or that is protected under the Convention on International Trade in Endangered Species.

(c) *Monitoring of established harvest levels.* At least once every three fiscal years, or as otherwise established by the Regional Forester, the Forest Service shall monitor the effects of harvesting a product on its sustainability. Such monitoring may include on-site examination of the product, including both harvested and non-harvested areas, and a review of past and projected harvest levels to the extent such information is available.

(d) *Revision of harvest levels.* The sustainable harvest level for a special forest product may be increased or decreased, as appropriate, based on monitoring.

§ 223.220 Quantity determination.

Sale contracts, permits, or other authorizing instruments may provide for determining the quantity of special forest products by scaling, measuring, weighing, counting, or other reliable means.

Appraisal and Pricing

§ 223.221 Establishing minimum rates.

The Chief of the Forest Service shall establish methods for setting minimum rates for sale of special forest products.

§ 223.222 Appraisal.

The Chief of the Forest Service shall set forth methods for appraising special forest products to determine their fair market value. Valid methods to determine fair market value include, but are not limited to, transaction evidence appraisals, analytical appraisals, comparison appraisals, and independent estimates based on average investments. Special forest products must be sold at minimum rates or appraised value, whichever is higher.

Contract and Permit Conditions and Provisions

§ 223.223 Advance payment.

Contracts, permits, or other authorizing instruments for the harvest and sale of special forest products shall require advance payment, unless the contract, permit, or instrument authorizes the purchaser to furnish a payment guarantee satisfactory to the Forest Service. Advance payments found to be in excess of amounts due the United States shall be refunded to the purchaser or their successor in interest, subject to the requirements of the Debt Collection Improvement Act.

§ 223.224 Performance bonds and security fees.

A contract, permit, or other authorizing instrument for the sale of special forest products may require the purchaser to furnish a performance bond or other security for satisfactory compliance with its terms.

§ 223.225 Contract, permit, and instrument term.

The term of any contract, permit, or other authorizing instrument for the sale of special forest products shall not exceed 10 years, unless the Chief of the Forest Service finds that a longer term is consistent with the Multiple-Use Sustained-Yield Act of 1960, as amended (16 U.S.C. 528–531). Any such finding by the Chief shall be made in writing.

§ 223.226 Adjustment of term of contract, permit, or other instrument for force majeure delay.

A contract, permit, or other instrument authorizing the harvest and sale of special forest products shall allow for the adjustment of its term to provide additional time to the purchaser in the event that circumstances beyond the purchaser's reasonable control delay performance. Such circumstances may include, but are not limited to acts of God, acts of the public enemy, acts of the Government, labor disputes, fires, insurrections, and floods. The approving officer may grant an extension upon finding that the purchaser has diligently performed in accordance with the contract, permit or other instrument, or that the substantial public interest justifies the extension.

Advertisement and Bids

§ 223.227 Sale advertisement.

(a) The Forest Service shall advertise for a period of 30 days any sale of special forest products for which the appraised value of the sale is equal to, or greater than $10,000, except as provided in paragraph (c) of this section.

(b) In any instance when the appraised value of the sale is less than $10,000, the Forest Service may sell the products without advertisement; however, if there is competitive interest in a sale valued at less than $10,000, the Forest Service shall advertise for not less than 7 days.

(c) Regardless of the requirement set forth in paragraph (a) of this section, above, the Forest Service may sell special forest products without advertisement, or at the Agency's discretion, advertise the sale for a period less than 30 days if

(1) Deterioration of a special forest product threatens its value;

(2) If the products were previously advertised for competitive bidding but were not sold because of an absence of satisfactory bids; or

(3) If the products are remaining from expired, cancelled, or abandoned contracts, permits, or other instruments.

§ 223.228 Contents of advertisement.

The Forest Service shall include the following information in an advertisement for the sale of special forest products:

(a) The location and estimated quantities of special forest products offered for sale;

(b) The time and place at which sealed bids will be opened in public;

(c) A provision asserting the agency's right to reject any and all bids;

(d) The place where complete information on the offering may be obtained; and

(e) Notice that a prospectus is available to the public and to interested potential bidders.

§ 223.229 Contents of prospectus.

The prospectus for the sale of special forest products shall include the following:

(a) The minimum acceptable value or unit price and the amount or rate of any additional required deposits;

(b) The amount of the bid guarantee that must accompany each bid;

(c) The amount of the deposit or downpayment to be made by the successful bidder and the time-frame for making such deposit or downpayment;

(d) The location and area of the sale, including acreage;

(e) The estimated volumes, quality, size, or other appropriate measure for the special forest products;

(f) A description of any special harvest and removal requirements for the sale;

(g) The method of bidding that the Forest Service will employ; sealed bid or sealed bid followed by oral auction;

(h) The type of contract, permit, or other instrument to be used for the sale;

(i) The termination date of the contract, permit, or other instrument and the normal operating period;

(j) The amount of performance bond required; and

(k) If circumstances warrant, such additional information about the sale as the Forest Service deems appropriate in order to notify purchasers that an on-site investigation of the products may be prudent.

§ 223.230 Bid restriction on resale of incomplete contracts, permits, or other instruments.

In any resale of special forest products remaining from a previous sale, the Forest Service shall not consider a bid submitted by a person who failed to complete or defaulted the original contract, permit, or other instrument authorizing the sale, or from any affiliate of such person except when such consideration serves the public interest.

§ 223.231 Bidding methods.

(a) The Contracting Officer or designated Forest Officer shall offer advertised sales of special forest products through sealed bid or sealed bid followed by oral auction. The method selected shall:

(1) Ensure open and fair competition;

(2) Ensure that the Federal Government receives not less than fair market value for the public resource; and

(3) Be consistent with the National Forest Management Act and other applicable federal laws.

(b) As a prerequisite to participation in an oral auction, a bidder shall submit a written sealed bid at least equal to the minimum acceptable bid price(s) specified in the prospectus. The Forest Service shall not accept a bid at oral auction that is less than the bidder's initial sealed bid.

(c) The Chief, or authorized designee shall specify the use of sealed bids or a mix of bidding methods in any area where there is a reasonable belief that collusive and/or abnormal bidding practices may be occurring.

§ 223.232 Disclosure of relation to other bidders.

The Forest Service may require any prospective purchaser of special forest products to disclose its relationship with other potential purchasers or operators. Such disclosure may include a certified statement of stockholders or members of the firm; officers of the corporation or members of the board of directors; or holders of bonds, notes, or other evidences of indebtedness.

Award of Contracts, Permits, or Other Instruments

§ 223.233 Award to highest bidder.

(a) The Forest Service shall award contracts, permits, or other authorizing instruments for advertised sales as follows:

(1) The Forest Service will award a sale of special forest products to the responsible bidder that submits the highest bid that conforms to the conditions of the sale as stated in the prospectus.

(2) If the highest bidder cannot meet the requirements for the sale, as specified in the prospectus or otherwise, then the Forest Service may:

(i) Reject all bids and reoffer the sale, or

(ii) Offer the award to the next highest qualified, at the high bid level, until the award is accepted or refused by all of conforming bidders.

(3) In the event of a tie between two or more responsible high bidders submitting conforming bids, the Forest Service shall award the sale by drawing of lots.

(b) If none of the bids meet the specified conditions of the sale, or in the event of other irregularities in the bidding process, the Forest Service may reject all bids, and, if it so decides, reoffer the sale.

§ 223.234 Determination of purchaser responsibility.

(a) A Contracting Officer shall not award a contract, permit, or other instrument authorizing the sale of special forest products to a prospective purchaser unless that officer makes an affirmative determination that the purchaser is responsible. In the absence of information clearly establishing that the prospective purchaser is responsible, the Contracting Officer shall conclude that the purchaser is not responsible.

(b) In order to make an affirmative determination that a prospective purchaser is responsible, the Contracting Officer must find that:

(1) The purchaser has adequate financial resources to perform the contract, permit, or other instrument, or the ability to obtain such resources;

(2) The purchaser is able to perform the contract, permit, or instrument within the relevant term, taking into consideration all of their existing commercial and governmental business commitments;

(3) The purchaser has a satisfactory record of integrity and business ethics;

(4) The purchaser has or is able to obtain equipment and supplies suitable for harvesting the products and for meeting applicable resource protection requirements;

(5) The purchaser is otherwise qualified and eligible to receive an award of a contract, permit, or instrument under applicable laws and regulations, or

(6) The purchaser has a satisfactory performance record on contracts, permits, or other instruments with the Forest Service. Failure to apply sufficient diligence and perseverance to perform a contract, permit, or other instrument is strong evidence that a purchaser is not responsible. A purchaser that is, or has been deficient in performance shall be deemed not responsible, unless the purchaser demonstrates that the deficiency arose from circumstances beyond their reasonable control.

§ 223.235 Unilateral delay, suspension, or modification of contracts, permits, or other instruments authorizing the sale of special forest products.

(a) *Reasons for Delay, Suspension or Modification.* The Forest Service may unilaterally delay, suspend, or modify any contract, permit, or instrument authorizing the sale of special forest products for any one of the following reasons:

(1) To prevent actual or potential harm to the environment, including without limit harm to land, water, air, habitat, plants, animals, cave resources, or cultural resources;

(2) To ensure consistency with land management plans or other management documents;

(3) To conduct environmental analyses, including without limitation, consultation under the Endangered Species Act of 1973, 16 U.S.C. 1531, *et seq.;*

(4) Because of existing or threatened litigation, which might affect or implicate the purchaser's harvest of special forest products; or

(5) For any reasons or other conditions as may be set forth in the contract, permit, or other instrument governing the sale.

(b) *Compensation.* (1) The Forest Service may compensate the purchaser

for unilateral delay, suspension or modification of any contract, permit, or other instrument in accordance with the applicable provisions set forth in such contract, permit, or instrument, if any, or in the absence of such provisions, in accordance with applicable Forest Service methods and procedures in effect at the time of claim submission, giving due consideration to the cause, duration, and financial impact of the delay, suspension or modification.

(2) A purchaser shall comply with provisions for claim submission contained in the governing contract, permit, or instrument, if any, or, in the absence of such provisions, shall submit a claim for compensation in writing and accompanied by supporting documentation that fully substantiates the amount of the claim.

(c) *Authority.* The Contracting Officer administrating the sale or responsible superior may issue an instruction delaying, suspending, or modifying the contract, permit, or instrument. Such instructions shall be issued to the purchaser in writing, except when exigent circumstances warrant oral communication, in which case the officer shall promptly followup in writing.

§ 223.236 Unilateral termination.

(a) *Reasons for Termination.* The Forest Service may unilaterally terminate a contract, permit, or other instrument authorizing the sale of special forest products for any of the following reasons:

(1) For any of the reasons enumerated at § 223.235(a)(1) through (5);

(2) For purchaser's material breach or continued violation of the contract or agreement terms;

(3) In the event purchaser is found to be in violation of any Federal or State civil or criminal statute, law, or regulation, when such violation relates to obtaining, attempting to obtain, selling, trading, or processing special forest products; to obtaining, attempting to obtain, or performing a public contract or subcontract; harm or damage to public lands or protected species; or, to purchaser's business integrity, honesty, or responsibility;

(b) *Compensation.* (1) The Forest Service may compensate the purchaser for unilateral termination of any contract, permit, or other instrument in accordance with the provisions set forth in such contract, permit, or instrument, if any, or, in the absence of such provisions, in accordance with applicable Forest Service methods and procedures in effect at the time of claim submission, giving due consideration to the cause, duration, and financial impact of the termination.

(2) A purchaser shall comply with provisions for claim submission contained in the governing contract, permit, or instrument, if any, or, in the absence of such provisions, shall submit a claim for compensation in writing and accompanied by supporting documentation that fully substantiates the amount of the claim.

(3) A purchaser shall not be entitled to compensation if the unilateral termination is due in whole or in part to the reasons set forth at § 223.236(a)(2) or (3).

(c) *Authority.* Any unilateral termination of a contract, permit, or instrument for the sale of special forest products shall be made by the Chief, or the Chief's designee. Any such instruction shall be issued to the purchaser in writing, except when exigent circumstances warrant oral communication, in which case a written communication shall follow promptly.

§ 223.237 Request by Purchaser for delay, suspension, modification, or termination.

(a) *Request.* A purchaser of special forest products may request delay, suspension, modification, or termination of their contract, permit, or other instrument pursuant to the provisions set forth in the contract, permit, or instrument, if any, or for another reasonable cause, including without limit catastrophic damage to the product or substantially changed market conditions. Any such request shall be submitted in writing and shall contain a detailed explanation of all relevant circumstances supporting the request.

(b) *Response.* The Forest Service shall respond to any request for delay, suspension, modification, or termination in accordance with applicable provisions of the contract, permit, or other instrument, and, in the absence of such provisions, may respond in a manner that is fair and reasonable in light of the circumstances of the request. The Forest Service may deny any request, in whole or in part, in accordance with the provisions of the relevant contract, permit, instrument, or at the Agency's discretion in the absence of such provisions.

(c) *Authority.* The Contracting Officer administrating the sale or superior officer shall have authority to respond to any request by a purchaser for delay, modification, suspension, or termination.

§ 223.238 Free use authorization to U.S. Army and Navy.

Subject to delegations of authority by the Chief of the Forest Service, Regional Foresters may approve the harvest of special forest products by the U.S. Army and Navy for the purposes identified at 16 U.S.C. 492.

§ 223.239 Free use by individuals.

(a) *Free use.* Under a permit, a person may harvest special forest products from National Forest System lands free of charge for personal, non-commercial use, not in excess of the amount or quantity authorized by a designated Forest Service officer, a Forest Supervisor, or a Regional Forester under 36 CFR 223.8.

(b) *Permit requirement.* A person seeking to harvest a special forest product for personal, non-commercial use, must submit an application to a Forest Service officer and obtain a free use permit prior to harvest, unless these requirements have been waived to allow harvesting of a specific product from a designated free use area. The permit shall indicate the type, amount, and/or value of the product to be harvested, and shall contain other restrictions and requirements. The Forest Service officer may set conditions on the proposed harvest, or deny the harvest, to ensure the personal safety of the individual; to prevent interference with Forest Service and/or commercial operations on the forest; to protect the product as a sustainable resource; or to otherwise protect the forest. The issuing officer or any superior officer may terminate for the convenience of the government, without compensation, a free use permit at any time for a number of reasons including, but not limited to, resource concerns including threatened, endangered or sensitive species; weather factors such as fire season or road access; conflicts with other users; or violations of permit requirements.

(c) *Subsistence in Alaska.* This section is not intended to affect subsistence uses implemented under the Alaska National Interest Lands Conservation Act, 16 U.S.C. 3101–3126.

§ 223.240 Indian tribes and treaty reserved gathering rights.

Indian tribes with reserved treaty gathering rights or other adjudicated rights may harvest special forest products in accordance with the terms of such treaty rights. Such harvest by Indian tribes shall not be subject to the application and permitting requirements of subpart G; however, the Regional Forester may set conditions on the harvest, as necessary to protect the product as a sustainable resource, or to otherwise protect the forest. The Regional Forester may only deny the harvest for purposes of health and safety and in some instances in order to

conserve the species or resources used. Any decision restricting tribal off-reservation treaty rights needs to be well documented. Consultation with the affected Tribe(s) and local Office of General Counsel on how to exercise such regulatory authority is found in FSM 1563.1 and FSH 1509.13, Chapter 10.

§ 223.241 Disposal of seized special forest products.

The Forest Service may dispose of seized special forest products that have been illegally obtained from National Forest System lands. Any commercial sale of such products shall be conducted in accordance with the requirements of this subpart; however, such products shall not be sold to the entity that collected them illegally. The Regional Forester may make seized products available for free use to individuals, Indian Tribes with reserved treaty gathering rights, and other federally recognized tribes. However, the Forest Service shall not dispose of a seized product by sale or free use if that product is threatened, endangered, or a candidate for listing under the Endangered Species Act; identified as prohibited for sale or trade under CITES, or listed on the Regional Forester's sensitive plant list, list of species of concern, or list of species of interest.

Subpart H—Forest Botanical Products

§ 223.275 Establishment of a pilot program.

This subpart governs the Forest Service's pilot program for the disposal of forest botanical products, as authorized by the Department of the Interior and Related Agencies Appropriations Act of 2000, (Pub. L. 106–113, Div. B, sec. 1000(a)(3), 113 Stat. 135 (enacting into law sec. 339 of Title III of H.R. 3423)), as amended in 2004 by Section 335 of Public Law 108–108. The pilot program shall be in effect through September 30, 2009.

§ 223.276 Applicability.

This subpart applies to the disposal of forest botanical products, as defined herein, from National Forest System lands, until September 30, 2009 of the pilot program. The Forest Service shall dispose forest botanical products in accordance with the procedures set forth in 36 CFR part 223 subpart G, subject to the requirements of this subpart.

§ 223.277 Definitions.

As used in this subpart, the following term shall mean:

Forest botanical products—naturally occurring special forest products, including bark, berries, boughs, bryophytes, bulbs, burls, cones, ferns, fungi (including mushrooms), forbs, grasses, mosses, nuts, pine straw, roots, sedges, seeds, shrubs, transplants, tree sap, and wildflowers. The term excludes animals, animal parts, Christmas trees, fence material, firewood, insects, mine props, minerals, posts and poles, rails, rocks, shingle and shake bolts, water, worms, and soil.

§ 223.278 Collection of fees.

The responsible official shall ensure that the price applicable to the harvest and sale of any forest botanical product, as determined in accordance with the procedures set forth in 36 CFR part 223 subpart G, includes at least a portion of the fair market value of the product and a portion of the costs associated with administering the pilot program.

§ 223.279 Personal use harvest levels and waiver of fees.

(a) In conjunction with determining sustainable harvest levels for special forest products, including forest botanical products, pursuant to § 223.219 of subpart G, the responsible Forest Service officer shall also determine personal use harvest levels, which shall be consistent with sustainable harvest levels.

(b) A person may harvest a forest botanical product from National Forest system lands, without charge, up to but not exceeding the personal use harvest level established for the product. A person seeking such personal use of a forest botanical product must comply with the procedures set forth in § 223.239 of subpart G.

(c) Under the following circumstances, the Forest Service waives the collection of fees otherwise required pursuant to § 223.278 of this subpart:

(1) For federally recognized Indian tribes seeking to harvest forest botanical products for cultural, ceremonial, and/or traditional purposes. Such purposes must be non-commercial, and any such harvest may be conditioned or denied as provided in § 223.240 of subpart G; and,

(2) On any occasion when a Regional Forester or Forest Supervisor, having proper authorization from the Chief, makes a determination in writing that the harvest facilitates scientific research or is for salvage because other management activities will destroy or damage the product.

§ 223.280 Monitoring and revising of harvest levels.

Monitoring and revision of harvest levels for forest botanical products for purposes of the pilot program shall be conducted as provided at § 223.219 of subpart G.

§ 223.281 Disposition of collected fees.

(a) Funds collected under the pilot program for the harvest and sale of forest botanical products shall be deposited into a special account in the Treasury of the United States. These funds shall be available for expenditure at National Forests or National Grasslands where the funds were collected until September 30, 2010.

(b) Funds deposited into the special account specified in paragraph (a) of this section shall be expended at a National Forest or National Grassland in proportion to the fees collected at that unit to pay for costs of: conducting inventories of forest botanical products; determining sustainable harvest levels for each species or type of forest botanical product; monitoring and assessing the impact of harvest levels and methods; conducting restoration activities, including vegetation restoration, necessitated by the collection, harvest, or removal of forest botanical products; or administering the pilot program, including environmental or other analyses.

Dated: September 25, 2007.

Abigail R. Kimbell,

Chief, Forest Service.

[FR Doc. E7–20658 Filed 10–19–07; 8:45 am]

BILLING CODE 3410–11–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 97

[EPA–R05–OAR–2007–IN–0140; FRL–8481–5]

Approval and Promulgation of State Implementation Plans; Indiana: Clean Air Interstate Rule

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is proposing limited approval of a revision to the Indiana State Implementation Plan (SIP) submitted on February 28, 2007, as amended by letter on September 20, 2007. This revision addresses the requirements of EPA's Clean Air Interstate Rule (CAIR), promulgated on May 12, 2005, and subsequently revised on April 28, 2006, and December 13, 2006. EPA is proposing to determine that the Indiana SIP revision strengthens the implementation plan for the State because it makes progress toward

meeting Indiana's emission reduction requirements under the NO_X SIP Call.

DATES: Comments must be received on or before November 21, 2007.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–R05–OAR–2007–0140, by one of the following methods:

1. *www.regulations.gov*: Follow the on-line instructions for submitting comments.
2. *E-mail: mooney.john@epa.gov*.
3. *Fax:* (312)886–5824.
4. *Mail:* ''EPA–R05–OAR–2007–0140'', John M. Mooney, Chief, Criteria Pollutant Section, Air Programs Branch (AR–18J), U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, Illinois 60604.
5. *Hand Delivery or Courier:* John M. Mooney, Chief, Criteria Pollutant Section, Air Programs Branch (AR–18J), U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, Illinois 60604. Such deliveries are only accepted during the Regional Office's normal hours of operation. The Regional Office's official hours of business are Monday through Friday, 8:30 to 4:30, excluding federal holidays. Please see the direct final rule which is located in the Rules section of this **Federal Register** for detailed instructions on how to submit comments.

FOR FURTHER INFORMATION CONTACT: John Paskevicz, Engineer, Criteria Pollutant Section, Air Programs Branch (AR–18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 886–6084, *paskevicz.john@epa.gov*.

SUPPLEMENTARY INFORMATION: In the Final Rules section of this **Federal Register**, EPA is approving the State's SIP submittal as a direct final rule without prior proposal because the Agency views this as a non-controversial submittal and anticipates no adverse comments. A detailed rationale for the approval is set forth in the direct final rule. If no adverse comments are received in response to this rule, no further activity is contemplated. If EPA receives adverse comments, EPA will withdraw the direct final rule and will address all public comments received in a subsequent final rule based on this proposed rule. EPA will not institute a second comment period. Any parties interested in commenting on this action should do so at this time. Please note that if EPA receives adverse comment on an amendment, paragraph, or section of this rule and if that provision may be severed from the remainder of the rule, EPA may adopt as final those provisions of the rule that are not the subject of an adverse comment. For additional information, see the direct final rule which is located in the Rules section of this **Federal Register**.

Dated: September 27, 2007.

Bharat Mathur,

Acting Regional Administrator, Region 5.

[FR Doc. E7–20250 Filed 10–19–07; 8:45 am]

BILLING CODE 6560–50–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[DA 07–4129; MB Docket No. 07–210; RM–11399]

Radio Broadcasting Services; Butte Falls and Netarts, Oregon

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: This document requests comments on a petition for rule making filed by Oregon Radio Partners, LLC (''Petitioner'') proposing the allotments of Channel 290A at Butte Falls and Channel 232C3 at Netarts, Oregon. The proposed coordinates for Channel 290A at Butte Falls are 42–36–19 NL and 122–24–38 WL with a site restriction of 14.7 km (9.1 miles) northeast of city reference and for Channel 232C3 at Netarts are 45–27–56 NL and 123–58–11 WL with a site restriction of 4.0 km (2.5 miles) northwest of city reference. The petition for rule making is a hybrid contingent filing with two applications: (1) For Station KTIL–FM, Channel 232C3 at Tillamook, Oregon to move to Channel 232C2 at Government Camp, Oregon (file no. BPH–0070125ADO); and (2) for an unbuilt station, Channel 225A at Butte Falls, Oregon to move to Talent, Oregon on the same channel (file no. BNPH–20060310ACD). These applications will be reviewed separately.

DATES: Comments must be filed on or before November 26, 2007, and reply comments on or before December 11, 2007.

ADDRESSES: Federal Communications Commission, 445 12th Street, SW., Washington, DC 20554. In addition to filing comments with the FCC, interested parties should serve the Petitioner and its counsel, as follows: Oregon Radio Partners, LLC, c/o Lee J. Peltzman, Esquire, Shainis & Peltzman, Chartered, 1850 M Street, NW., Washington, DC 20036.

FOR FURTHER INFORMATION CONTACT: Rolanda F. Smith, Media Bureau, (202) 418–2180.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's *Notice of Proposed Rule Making*, MB Docket No. 07–210, adopted October 3, 2007, and released October 5, 2007. The full text of this Commission decision is available for inspection and copying during normal business hours in the Commission's Reference Information Center, 445 Twelfth Street, SW., Washington, DC 20554. This document may also be purchased from the Commission's duplicating contractors, Best Copy and Printing, Inc., 445 12th Street, SW., Room CY–B402, Washington, DC 20554, telephone 1–800–378–3160 or *http://www.BCPIWEB.com.* This document does not contain proposed information collection requirements subject to the Paperwork Reduction Act of 1995, Public Law 104–13. In addition, therefore, it does not contain any proposed information collection burden ''for small business concerns with fewer than 25 employees,'' pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, *see* 44 U.S.C. 3506(c)(4).

The Provisions of the Regulatory Flexibility Act of 1980 do not apply to this proceeding. Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all *ex parte* contacts are prohibited in Commission proceedings, such as this one, which involve channel allotments. *See* 47 CFR 1.1204(b) for rules governing permissible *ex parte* contact.

For information regarding proper filing procedures for comments, *see* 47 CFR 1.415 and 1.420.

List of Subjects in 47 CFR Part 73

Radio, Radio broadcasting.

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR part 73 as follows:

PART 73—RADIO BROADCAST SERVICES

1. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334, 336.

§ 73.202 [Amended]

2. Section 73.202(b), the Table of FM Allotments under Oregon, is amended by adding Butte Falls, Channel 290A; and by adding Netarts, Channel 232C3.

Federal Communications Commission.

John A. Karousos,

Assistant Chief, Audio Division, Media Bureau.

[FR Doc. E7–20747 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[DA 07–4122; MB Docket No. 07–194; RM–11397]

Radio Broadcasting Services; Hugo, Oklahoma

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: This document sets forth a proposal to amend the FM Table of Allotments, section 73.202(b) of the Commission's rules, 47 CFR 73.202(b). The Commission requests comment on a petition filed by Katherine Pyeatt. Petitioner proposes the allotment of Channel 286A at Hugo, Oklahoma, as a third local service. Channel 286A can be allotted at Hugo in compliance with the Commission's minimum distance separation requirements with a site restriction of 8.5 km (5.3 miles) southwest of Hugo. The proposed coordinates for Channel 286A at Hugo are 33–57–21 North Latitude and 95–34–30 West Longitude. *See* **SUPPLEMENTARY INFORMATION** *infra*.

DATES: Comments must be filed on or before November 26, 2007, and reply comments on or before December 11, 2007.

ADDRESSES: Federal Communications Commission, Washington, DC 20554. In addition to filing comments with the FCC, interested parties should serve the designated petitioner and her counsel as follows: Katherine Pyeatt, 3500 Maple Avenue, #1320, Dallas, Texas 75219; and Gene A. Bechtel, Esq., Law Office of Gene Bechtel, 1050 17th Street, NW., Suite 600, Washington, DC 20036.

FOR FURTHER INFORMATION CONTACT: Deborah A. Dupont, Media Bureau (202) 418–7072.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's Notice of Proposed Rule Making, MB Docket No. 07–194, adopted October 3, 2007, and released October 5, 2007. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Reference Information Center (Room CY–A257), 445 12th Street, SW., Washington, DC 20554. The complete text of this decision may also be purchased from the Commission's copy contractor, Best Copy and Printing, Inc., 445 12th Street, SW., Room CY–B402, Washington, DC 20554, (800) 378–3160, or via the company's Web site, *http://www.bcpiweb.com*. This document does not contain proposed information collection requirements subject to the Paperwork Reduction Act of 1995, Public Law 104–13. In addition, therefore, it does not contain any proposed information collection burden ''for small business concerns with fewer than 25 employees,'' pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, *see* 44 U.S.C. 3506(c)(4).

The Provisions of the Regulatory Flexibility Act of 1980 do not apply to this proceeding. Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all *ex parte* contacts are prohibited in Commission proceedings, such as this one, which involve channel allotments. *See* 47 CFR 1.1204(b) for rules governing permissible *ex parte* contacts.

For information regarding proper filing procedures for comments, *see* 47 CFR 1.415 and 1.420.

List of Subjects in 47 CFR Part 73

Radio, Radio broadcasting.

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR part 73 as follows:

PART 73—RADIO BROADCAST SERVICES

1. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334, 336.

§ 73.202 [Amended]

2. Section 73.202(b), the Table of FM Allotments under Oklahoma, is amended by adding Hugo, Channel 286A.

Federal Communications Commission.

John A. Karousos,

Assistant Chief, Audio Division, Media Bureau.

[FR Doc. E7–20732 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[DA 07–4124; MB Docket No. 07–182; RM–11393]

Radio Broadcasting Services; Antlers, Oklahoma

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: This document requests comments on a petition for rulemaking filed by Katherine Pyeatt, requesting the allotment of Channel 284A at Antlers, Oklahoma. The reference coordinates for Channel 284A at Antlers, Oklahoma, are 34–21–00 NL and 95–38–00 WL. There is a site restriction 13.2 kilometers (8.2 miles) north of the community.

DATES: Comments must be filed on or before November 26, 2007, and reply comments on or before December 11, 2007.

ADDRESSES: Secretary, Federal Communications Commission, 445 Twelfth Street, SW., Washington, DC 20554. In addition to filing comments with the FCC, interested parties should serve the petitioner as follows: Katherine Pyeatt, 3500 Maple Avenue #1320, Dallas, Texas 75219.

FOR FURTHER INFORMATION CONTACT: Rolanda F. Smith, Media Bureau, (202) 418–2180.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's Notice of Proposed Rule Making, MB Docket No. 07–182, adopted October 3, 2007, and released October 5, 2007. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC's Reference Information Center at Portals II, CY–A257, 445 Twelfth Street, SW., Washington, DC 20554. This document may also be purchased from the Commission's duplicating contractors, Best Copy and Printing, Inc., 445 12th Street, SW., Room CY–B402, Washington, DC 20554, telephone 1–800–378–3160 or via e-mail *http://www.BCPIWEB.com*. This document does not contain proposed information collection requirements subject to the Paperwork Reduction Act of 1995, Public Law 104–13. In addition, therefore, it does not contain any proposed information collection burden ''for small business concerns with fewer than 25 employees,'' pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, *see* 44 U.S.C. 3506(c)(4).

Provisions of the Regulatory Flexibility Act of 1980 do not apply to this proceeding.

Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all *ex parte* contacts are prohibited in Commission proceedings, such as this one, which involve channel allotments. See 47 CFR 1.1204(b) for rules governing permissible *ex parte* contacts.

For information regarding proper filing procedures for comments, see 47 CFR 1.415 and 1.420.

List of Subjects in 47 CFR Part 73

Radio, Radio broadcasting.

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR part 73 as follows:

PART 73—RADIO BROADCAST SERVICES

1. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334, 336.

§ 73.202 [Amended]

2. Section 73.202(b), the Table of FM Allotments under Oklahoma, is amended by adding Antlers, Channel 284A.

Federal Communications Commission.

John A. Karousos,

Assistant Chief, Audio Division, Media Bureau.

[FR Doc. E7–20735 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[DA 07–4125; MB Docket No. 06–43; RM–11313; MB Docket No. 06–66; RM–11321]

Radio Broadcasting Services; Normangee and Oakwood, TX

AGENCY: Federal Communications Commission.

ACTION: Proposed rule; dismissal.

SUMMARY: The Audio Division dismisses the Petitions for Rule Making filed by Charles Crawford, requesting the allotments of Channel 300A at Oakwood, Texas, as its first local service and Channel 299A at Normangee, Texas, as its first local service in compliance with Section 1.420(j) of the Commission's Rules. It is the Commission's policy to refrain from making a new allotment to a community absent an expression of interest. The *Report and Order* also dismissed a counterproposal filed by Linda Crawford in MB Docket No. 06–43 in accordance with Section 1.420(j) of the Rules. Additionally, a counterproposal filed by Roy Henderson in MB Docket No. 06–66 was dismissed.

ADDRESSES: Secretary, Federal Communications Commission, 445 Twelfth Street, SW., Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: Rolanda F. Smith, Media Bureau, (202) 418–2180.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's *Report and Order*, MB Docket No. 06–43 and 06–66, adopted October 3, 2007, and released October 5, 2007. In MB Docket No. 06–43, the *Notice of Proposed Rule Making* proposed the allotment of Channel 300A at Oakwood, Texas. *See* 70 FR 136328, published March 15, 2006. In MB Docket No. 06–66, the *Notice of Proposed Rule Making* proposed the allotment of Channel 299A at Normangee, Texas. *See* 70 FR 20059, published April 19, 2006. The full text of this Commission decision is available for inspection and copying during regular business hours at the FCC's Reference Information Center, Portals II, 445 12th Street, SW., Room CY–A257, Washington, DC 20554. The complete text of this decision may also be purchased from the Commission's duplicating contractor, Best Copy and Printing, Inc., 445 12th Street, SW., Room CY–B402, Washington, DC 20054, telephone 1–800–378–3160 or *http://www.BCPIWEB.com.* This document is not subject to the Congressional Review Act. (The Commission, is, therefore, not required to submit a copy of this Report and Order to GAO, pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A), because the proposed rules were dismissed.)

Federal Communications Commission.

John A. Karousos,

Assistant Chief, Audio Division, Media Bureau.

[FR Doc. E7–20741 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[DA 07–4123; MB Docket No. 07–211; RM–11400]

Radio Broadcasting Services; Harper, TX

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: This document sets forth a proposal to amend the FM Table of Allotments, section 73.202(b) of the Commission's rules, 47 CFR 73.202(b). The Commission requests comment on a petition filed by Katherine Pyeatt. Petitioner proposes the allotment of Channel 256C3 at Harper, Texas, as a first local service. Channel 256C3 can be allotted at Harper in compliance with the Commission's minimum distance separation requirements with a site restriction of 12.9 km (8.0 miles) east of Harper. The proposed coordinates for Channel 256C3 at Harper are 30–16–20 North Latitude and 99–07–25 West Longitude. Concurrence by the Government of Mexico is required for the allotment of Channel 256C3 at Harper, Texas, because the proposed allotment is located within 320 kilometers (199 miles) of the U.S.-Mexican border. *See* **SUPPLEMENTARY INFORMATION** *infra.*

DATES: Comments must be filed on or before November 26, 2007, and reply comments on or before December 11, 2007.

ADDRESSES: Federal Communications Commission, Washington, DC 20554. In addition to filing comments with the FCC, interested parties should serve the designated petitioner and her counsel as follows: Katherine Pyeatt, 3500 Maple Avenue, #1320, Dallas, Texas 75219; and Gene A. Bechtel, Esq., Law Office of Gene Bechtel, 1050 17th Street, NW., Suite 600, Washington, DC 20036.

FOR FURTHER INFORMATION CONTACT: Deborah A. Dupont, Media Bureau (202) 418–7072.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's Notice of Proposed Rule Making, MB Docket No. 07–211, adopted October 3, 2007, and released October 5, 2007. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Reference Information Center (Room CY–A257), 445 12th Street, SW., Washington, DC 20554. The complete text of this decision may also be purchased from the Commission's copy

contractor, Best Copy and Printing, Inc., 445 12th Street, SW., Room CY–B402, Washington, DC, 20554, (800) 378–3160, or via the company's Web site, *http://www.bcpiweb.com.* This document does not contain proposed information collection requirements subject to the Paperwork Reduction Act of 1995, Public Law 104–13. In addition, therefore, it does not contain any proposed information collection burden ''for small business concerns with fewer than 25 employees,'' pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, *see* 44 U.S.C. 3506(C)(4).

The Provisions of the Regulatory Flexibility Act of 1980 do not apply to this proceeding. Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all *ex parte* contacts are prohibited in Commission proceedings, such as this one, which involve channel allotments. *See* 47 CFR 1.1204(b) for rules governing permissible *ex parte* contacts.

For information regarding proper filing procedures for comments, *see* 47 CFR 1.415 and 1.420.

List of Subjects in 47 CFR Part 73

Radio, Radio broadcasting.

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR part 73 as follows:

PART 73—RADIO BROADCAST SERVICES

1. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334, 336.

§ 73.202 [Amended]

2. Section 73.202(b), the Table of FM Allotments under Texas, is amended by adding Harper, Channel 256C3.

Federal Communications Commission.

John A. Karousos,

Assistant Chief, Audio Division, Media Bureau.

[FR Doc. E7–20754 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[DA 07–4126; MB Docket No. 07–183; RM–11394]

Radio Broadcasting Services; Cotulla and Dilley, TX

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: This document requests comments on a petition for rulemaking filed by Katherine Pyeatt, requesting the allotment of Channel 291A at Dilley, Texas. The reference coordinates for Channel 291A at Dilley, Texas, are 28–36–06 NL and 99–06–21 WL. There is a site restriction, 9.6 kilometers (6 miles) southeast of the community. To accommodate this proposed allotment, Petitioner requests the relocation of reference coordinates for vacant Channel 289A at Cotulla, Texas. The proposed reference coordinates for Channel 289A at Cotulla are 28–22–00 NL and 99–17–00 WL. This site is located 9.1 kilometers (5.7 miles) southwest of Cotulla.

DATES: Comments must be filed on or before November 26, 2007, and reply comments on or before December 11, 2007.

ADDRESSES: Secretary, Federal Communications Commission, 445 Twelfth Street, SW., Washington, DC 20554. In addition to filing comments with the FCC, interested parties should serve the petitioner as follows: Katherine Pyeatt, 3500 Maple Avenue #1320, Dallas, Texas 75219.

FOR FURTHER INFORMATION CONTACT: Rolanda F. Smith, Media Bureau, (202) 418–2180.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's Notice of Proposed Rule Making, MB Docket No. 07–183, adopted November 26, 2007, and released December 11, 2007. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC's Reference Information Center at Portals II, CY–A257, 445 Twelfth Street, SW., Washington, DC 20554. This document may also be purchased from the Commission's duplicating contractors, Best Copy and Printing, Inc., 445 12th Street, SW., Room CY–B402, Washington, DC 20554, telephone 1–800–378–3160 or via e-mail *http://www.BCPIWEB.com.* This document does not contain proposed information collection requirements subject to the Paperwork Reduction Act of 1995, Public Law 104–13. In addition, therefore, it does not contain any proposed information collection burden ''for small business concerns with fewer than 25 employees,'' pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, *see* 44 U.S.C. 3506(c)(4).

Provisions of the Regulatory Flexibility Act of l980 do not apply to this proceeding.

Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all *ex parte* contacts are prohibited in Commission proceedings, such as this one, which involve channel allotments. See 47 CFR 1.1204(b) for rules governing permissible ex parte contacts.

For information regarding proper filing procedures for comments, see 47 CFR 1.415 and 1.420.

List of Subjects in 47 CFR Part 73

Radio, Radio broadcasting.

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR part 73 as follows:

PART 73—RADIO BROADCAST SERVICES

1. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334, 336.

§ 73.202 [Amended]

2. Section 73.202(b), the Table of FM Allotments under Texas, is amended by adding Channel 291A at Dilley.

Federal Communications Commission.

John A. Karousos,

Assistant Chief, Audio Division, Media Bureau.

[FR Doc. E7–20766 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

Notices

Federal Register
Vol. 72, No. 203
Monday, October 22, 2007

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF AGRICULTURE

Forest Service

Notice of Meeting; Federal Lands Recreation Enhancement Act, (Title VIII, Pub. L. 108–447)

AGENCY: Pacific Southwest Region, Forest Service, U.S. Department of Agriculture.

ACTION: Notice of meeting.

SUMMARY: The Pacific Southwest Recreation Resource Advisory Committee (Recreation RAC) will hold its first meeting in Sacramento, California. The purpose of this initial meeting is to receive an orientation of the Recreation Enhancement Act, RRAC roles and responsibilities and to develop the process for making recommendations concerning recreation fee proposals on lands managed by the Forest Service and Bureau of Land Management in California.

DATES: The meeting will be held November 5, 2007 from 10 a.m.–5 p.m. and November 6, 2007 from 8 a.m. to 3 p.m.

ADDRESSES: The meeting will be in the Ambassador Room, Vagabond Inn Executive, 2030 Arden Way, Sacramento, CA 95825. Send written comments to Marlene Finley, Designated Federal Official for the Pacific Southwest Region Recreation RAC, 1323 Club Drive, Vallejo, CA 94592, 707–562–8856 or *mfinley@fs.fed.us.*

FOR FURTHER INFORMATION CONTACT: Marlene Finley, Designated Federal Official, Pacific Southwest Region Recreation RAC, 1323 Club Drive, Vallejo, CA 94592.

SUPPLEMENTARY INFORMATION: The meeting is open to the public. Committee discussion is limited to Forest Service and Bureau of Land Management staff and Committee members. However, persons who wish to bring recreation fee matters to the attention of the Committee may file written statements with the Committee staff before or after the meeting. A public input session will be provided during the meeting and individuals who wish to address the Recreation RAC will have an opportunity at 10 a.m. on November 6. Comments will be limited to three minutes per person. The Recreation RAC is authorized by the Federal Land Recreation Enhancement Act, which was signed into law by President Bush in December 2004.

Dated: October 15, 2007.

Marlene Finley,

Designated Federal Official, Recreation RAC, Pacific Southwest Region.

[FR Doc. E7–20693 Filed 10–19–07; 8:45 am]

BILLING CODE 3410–11–P

DEPARTMENT OF AGRICULTURE

Forest Service

Ravalli County Resource Advisory Committee

AGENCY: Forest Service, USDA.

ACTION: Notice of Meeting.

SUMMARY: The Ravalli County Resource Advisory Committee will be meeting to choose monitors for the projects that were awarded and a presentation on Education Weed Trunks. The meeting is being held pursuant to the authorities in the Federal Advisory Committee Act (Pub. L. 92–463) and under the Secure Rural Schools and Community Self-Determination Act of 2000 (Pub. L. 106–393). The meeting is open to the public.

DATES: The meeting will be held on October 23, 2007, 6:30 p.m.

ADDRESSES: The meeting will be held at the Bitterroot National Forest Supervisor Office, 1801 N. 1st Street, Hamilton, Montana. Send written comments to Dan Ritter, District Ranger, Stevensville Ranger District, 88 Main Street, Stevensville, MT 59870, by facsimile (406) 777–7423, or electronically to *dritter@fs.fed.us.*

FOR FURTHER INFORMATION CONTACT: Dan Ritter, Stevensville District Ranger and Designated Federal Officer, Phone: (406) 777–5461.

Dated: October 10, 2007.

Barry Paulson,

Acting Forest Supervisor.

[FR Doc. 07–5109 Filed 10–19–07; 8:45 am]

BILLING CODE 3410–11–M

COMMISSION ON CIVIL RIGHTS

Membership of the USCCR Performance Review Board

AGENCY: U.S. Commission on Civil Rights.

ACTION: Notice of membership of the USCCR Performance Review Board.

SUMMARY: This notice announces the appointment of the Performance Review Board (PRB) of the United States Commission on Civil Rights. Publication of PRB membership is required pursuant to 5 U.S.C. 4314(c)(4).

The PRB provides fair and impartial review of the U.S. Commission on Civil Rights' Senior Executive Service performance appraisals and makes recommendations regarding performance ratings and performance awards to the Staff Director, U.S. Commission on Civil Rights for the FY 2007 rating year.

FOR FURTHER INFORMATION CONTACT: Tina Louise Martin, Director of Management, U.S. Commission on Civil Rights, 624 Ninth Street, NW., Washington, DC 20425, Telephone: (202) 376–8364.

USCCR Performance Review Board Members

Peggy Mastroianni, Associate Legal Counsel, U.S. Equal Employment Opportunity Commission

Lawrence W. Roffee, Executive Director, U.S. Access Board

Jill Crumpacker, Executive Director, Federal Labor Relations Authority

Dated: October 16, 2007.

David P. Blackwood,

General Counsel.

[FR Doc. E7–20702 Filed 10–19–07; 8:45 am]

BILLING CODE 6335–01–P

DEPARTMENT OF COMMERCE

Bureau of Industry and Security

Announcement of Performance Review Board Members

AGENCY: Bureau of Industry and Security, Department of Commerce.

ACTION: Notice of performance review board membership.

Correction: In the section that lists the members of the Review Board, Matthew Borman's title should be Deputy Assistant Secretary for Export Administration, and John Phelan's last name is listed incorrectly as ''Phalen,'' in the **Federal Register** Notice published October 3, 2007, page # 56334.

SUMMARY: 5 CFR 430.310 requires agencies to publish notice of Performance Review Board appointees in the **Federal Register** before their service begins. This notice announces the names of new and existing members of the Bureau of Industry and Security's Performance Review Board.

FOR FURTHER INFORMATION CONTACT: Gay Shrum, Director of Administration, Bureau of Industry and Security, at (202) 482–1058, Room 6622, Washington, DC 20230.

SUPPLEMENTARY INFORMATION: The purpose of the Performance Review Board is to review and make recommendations to the appointing authority on performance management issues such as appraisals, bonuses, pay level increases, and Presidential Rank Awards for members of the Senior Executive Service.

The Under Secretary for Industry and Security, Mario Mancuso, has named the following members of the Bureau of Industry and Security Performance Review Board:

1. Mark Foulon, Senior Advisor to the Under Secretary (new)
2. Matthew Borman, Deputy Under Secretary for Export Administration
3. Dawn Leaf, Chief Information Officer
4. Gay Shrum, Director of Administration
5. John Phelan, Director, Office of Management and Organization, Department of Commerce (Outside Reviewer)

Dated: October 12, 2007.

Ronald Glaser,

Human Resources Officer.

[FR Doc. E7–20736 Filed 10–19–07; 8:45 am]

BILLING CODE 3510–33–P

DEPARTMENT OF COMMERCE

International Trade Administration

(A–351–840)

Notice of Final Results of Antidumping Duty Changed Circumstances Review: Certain Orange Juice from Brazil

AGENCY: Import Administration, International Trade Administration, Department of Commerce.

SUMMARY: The Department of Commerce (the Department) has determined, pursuant to section 751(b) of the Tariff Act of 1930, as amended (the Act), that Fischer S.A. Comecio, Industria, and Agricultura (Fischer Comercio) is the successor–in-interest to Fischer S/A Agroindustria (Fischer Agroindustria). Thus, we find that Fischer Comercio should receive the same antidumping duty cash deposit rate (*i.e.*, 12.46 percent) with respect to the subject merchandise as Fischer Agroindustria, its predecessor company, as of the date of publication of this notice in the **Federal Register**.

EFFECTIVE DATE: (October 22, 2007.

FOR FURTHER INFORMATION CONTACT: Elizabeth Eastwood, AD/CVD Operations, Office 2, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW, Washington, DC 20230; telephone (202) 482–3874.

SUPPLEMENTARY INFORMATION:

Background

On September 11, 2007, the Department initiated this changed circumstances review based on a request from Fischer Agroindustria and simultaneously issued its preliminary results that Fischer Comercio is the successor–in-interest to Fischer Agroindustria and should receive Fischer Agroindustria's cash deposit rate of 12.46 percent. *See Notice of Initiation and Preliminary Results of Antidumping Duty Changed Circumstances Review: Certain Orange Juice from Brazil*, 72 FR 51798 (Sept. 11, 2007) (*Initiation and Preliminary Results*). In the *Initiation and Preliminary Results*, we stated that interested parties could request a hearing or submit case briefs and/or written comments to the Department no later than 30 days after publication of the *Initiation and Preliminary Results* noticein the **Federal Register**, and submit rebuttal briefs, limited tothe issues raised in those case briefs, seven days subsequent to the due date of the case briefs. We did not receive any hearing requests or comments on the *Initiation and Preliminary Results*.

Scope of the Order

The scope of this order includes certain orange juice for transport and/or further manufacturing, produced in two different forms: (1) frozen orange juice in a highly concentrated form, sometimes referred to as FCOJM; and (2) pasteurized single–strength orange juice which has not been concentrated, referred to as NFC. At the time of the filing of the petition, there was an existing antidumping duty order on frozen concentrated orange juice (FCOJ) from Brazil. *See Antidumping Duty Order; Frozen Concentrated Orange Juice from Brazil*, 52 FR 16426 (May 5, 1987). Therefore, the scope of this order with regard to FCOJM covers only FCOJM produced and/or exported by those companies which were excluded or revoked from the pre–existing antidumping order on FCOJ from Brazil as of December 27, 2004. Those companies are Cargill Citrus Limitada (Cargill), Coinbra–Frutesp S.A. (Coinbra–Frutesp), Sucocitrico Cutrale, S.A. (Cutrale), Fischer Agroindustria, and Montecitrus Trading S.A. (Montecitrus).

Excluded from the scope of the order are reconstituted orange juice and frozen concentrated orange juice for retail (FCOJR). Reconstituted orange juice is produced through further manufacture of FCOJM, by adding water, oils and essences to the orange juice concentrate. FCOJR is concentrated orange juice, typically at 42[deg] Brix, in a frozen state, packed in retail–sized containers ready for sale to consumers. FCOJR, a finished consumer product, is produced through further manufacture of FCOJM, a bulk manufacturer's product. The subject merchandise is currently classifiable under subheadings 2009.11.00, 2009.12.25, 2009.12.45, and 2009.19.00 of the Harmonized Tariff Schedule of the United States (HTSUS). These HTSUS subheadings are provided for convenience and for customs purposes only and are not dispositive. Rather, the written description of the scope of this order is dispositive.

Final Results of Changed Circumstances Review

Based on the information provided by Fischer Agroindustria, and the fact that the Department did not receive any comments during the comment period following the preliminary results of this review, the Department confirms its preliminary determination that Fischer Comercio is the successor–in-interest to Fischer Agroindustria for antidumping duty cash deposit purposes.

Instructions to U.S. Customs and Border Protection (CBP)

The Department will instruct CBP to suspend liquidation of all shipments of the subject merchandise produced and exported by Fischer Comercio entered, or withdrawn from warehouse, for consumption, on or after the publication date of this notice at 12.46 percent (*i.e.*, Fischer Agroindustria's cash deposit rate). This deposit rate shall remain in effect until publication of the final results of the ongoing administrative review, in which Fischer Comercio/Fischer Agroindustria is participating.

This notice also serves as a reminder to parties subject to administrative protective orders (APOs) of their responsibility concerning the disposition of proprietary information disclosed under APO in accordance with 19 CFR 351.306. Timely written notification of the return/destruction of APO materials or conversion to judicial protective order is hereby requested. Failure to comply with the regulations and terms of an APO is a sanctionable violation.

This notice is published in accordance with sections 751(b) and 777(i)(1) of the Act, and section 351.216(e) of the Department's regulations.

Dated: October 16, 2007.

David M. Spooner,

Assistant Secretary for Import Administration.

[FR Doc. E7–20751 Filed 10–19–07; 8:45 am]

BILLING CODE 3510–DS–S

DEPARTMENT OF COMMERCE

International Trade Administration

Notice of Solicitation of Applications for Allocation of Tariff Rate Quotas on the Imports of Certain Cotton Shirting Fabric to Persons Who Cut and Sew Men's and Boys' Cotton Shirts in the United States

AGENCY: Department of Commerce, International Trade Administration.

ACTION: The Department of Commerce (Department) is soliciting applications for an allocation of the 2008 tariff rate quotas on certain cotton woven fabric to persons who cut and sew men's and boys' cotton shirts in the United States.

SUMMARY: The Department hereby solicits applications from persons (including firms, corporations, or other legal entities) who cut and sew men's and boys' cotton shirts in the United States for an allocation of the 2008 tariff rate quotas on certain cotton woven fabric. Interested persons must submit an application on the form provided to the address listed below by **November 21, 2007.** The Department will cause to be published in the **Federal Register** its determination to allocate the 2008 tariff rate quotas, will notify applicants of their respective allocation, and will issue licenses to eligible applicants within 60 days of that date.

DATES: To be considered, applications must be received or postmarked by 5 p.m. on **November 21, 2007.**

ADDRESSES: Applications must be submitted to the Office of Textiles and Apparel, Room 3100, United States Department of Commerce, 1401 Constitution Ave. NW, Washington, DC 20230 (telephone: (202) 482-3400). Application forms may be obtained from that office (via facsimile or mail) or from the following Internet address: *http://web.ita.doc.gov/tacgi/cottontrq.nsf/trqapp*.

FOR FURTHER INFORMATION CONTACT: Laurie Mease, Office of Textiles and Apparel, U.S. Department of Commerce, (202) 482-3400.

SUPPLEMENTARY INFORMATION:

Background

On December 9, 2006, President Bush signed into law the Tax Relief and Health Care Act of 2006 (HR 6406/HR 6111) (''the Act''). Section 406(b)(1) of the Act requires the Secretary of Commerce to fairly allocate tariff rate quotas on the import of certain cotton woven fabrics through December 31, 2009. Section 406 (b)(1) authorizes the Secretary of Commerce to issue licenses to eligible manufacturers under headings 9902.52.08 through 9902.52.19 of the Harmonized Tariff Schedule of the United States, specifying the restrictions under each such license on the quantity of cotton woven fabrics that may be entered each year on behalf of the manufacturer. The Act created an annual tariff rate quota providing for temporary reductions through December 31, 2009 in the import duties of cotton woven fabrics suitable for making cotton shirts (new Harmonized Tariff Schedule of the United States (HTS) headings 9902.52.08, 9902.52.09, 9902.52.10, 9902.52.11, 9902.52.12, 9902.52.13, 9902.52.14, 9902.52.15, 9902.52.16, 9902.52.17, 9902.52.18, and 9902.52.19). The reduction in duty is limited to 85 percent of the total square meter equivalents of all imported woven fabrics of cotton containing 85 percent or more by weight cotton used by manufacturers in cutting and sewing men's and boy's cotton shirts in the United States and purchased by such manufacturer during calendar year 2000.

The Act requires that the tariff rate quotas be allocated to persons (including firms, corporations, or other legal entities) who, during calendar year 2000, were manufacturers cutting and sewing men's and boys' cotton shirts in the United States from imported woven fabrics of cotton containing 85 percent or more by weight cotton of the kind described in HTS 9902.52.08 through 9902.5219 purchased by such manufacturer during calendar year 2000. On July 24, 2007, the Department published regulations establishing procedures for allocating the TRQ (72 FR 40235, 15 CFR 336). In order to be eligible for an allocation, an applicant must submit an application on the form provided at http://web.ita.doc.gov/tacgi/cottontrq.nsf/trqapp to the address listed above by 5 p.m. on **November 21, 2007.** in compliance with the requirements of 15 CFR 336. Any business confidential information that is marked business confidential will be kept confidential and protected from disclosure to the full extent permitted by law.

Dated: October 17, 2007.

Janet E. Heinzen,

Acting Deputy Assistant Secretary for Textiles and Apparel.

[FR Doc. E7–20749 Filed 10–19–07; 8:45 am]

BILLING CODE 3510–DS–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN: 0648–XD47

Gulf of Mexico Fishery Management Council; Public Meetings

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of a public meeting.

SUMMARY: The Gulf of Mexico Fishery Management Council will convene a public meeting of the Ad Hoc Recreational Red Snapper Advisory Panel (AP).

DATES: The meeting will convene at 1 p.m. on Tuesday, November 13, 2007 and conclude no later than 3 p.m. on Wednesday, November 14, 2007.

ADDRESSES: This meeting will be held at the InterContinental Hotel, 4860 W. Kennedy Blvd., Tampa, FL 33609; telephone: (813) 286–4400.

Council address: Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, FL 33607.

FOR FURTHER INFORMATION CONTACT: Steven Atran, Population Dynamics Statistician; Gulf of Mexico Fishery Management Council; telephone: (813) 348–1630.

SUPPLEMENTARY INFORMATION: At this meeting, the AP will evaluate and recommend innovative management strategies for the private and for-hire recreational red snapper fisheries of the Gulf of Mexico, and evaluate and recommend innovative approaches to minimizing bycatch and bycatch mortality in the private and for-hire recreational red snapper fisheries of the Gulf of Mexico. Approaches that could be considered for management of the recreational red snapper fishery include, but are not limited to, random distribution systems such as lotteries, community-based approaches, incentive-based approaches, effort control, and, any other novel approaches deemed relevant by the AP. Approaches to minimize bycatch and bycatch mortality could include, but are not limited to, methods to improve the survival of released fish, methods to avoid the capture of undersized or out-of-season fish and, methods to account for otherwise unavoidable regulatory discards. The AP may also discuss related issues such as regional management, monitoring methods, accountability measures, or other issues associated with management of the recreational red snapper fishery.

Although other issues not on the agenda may come before the panel for discussion, in accordance with the Magnuson-Stevens Fishery Conservation and Management Act, those issues may not be the subject of formal panel action during this meeting. Panel action will be restricted to those issues specifically identified in the agenda listed as available by this notice.

A copy of the agenda can be obtained by calling (813) 348–1630.

Special Accommodations

This meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Tina Trezza at the Council (see **ADDRESSES**) at least 5 working days prior to the meeting.

Dated: October 16, 2007.

Tracey L. Thompson,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. E7–20634 Filed 10–18–07; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Telecommunications and Information Administration

Announcement of Performance Review Board Members

AGENCY: National Telecommunications and Information Administration, Department of Commerce.

ACTION: Notice of Performance Review Board Membership.

SUMMARY: 5 CFR 430.310 requires agencies to publish notice of Performance Review Board appointees in the **Federal Register** before their service begins. This notice announces the names of new and existing members of the National Telecommunications and Information Administration's Performance Review Board.

FOR FURTHER INFORMATION CONTACT: Anthony Calza, National Telecommunications and Information Administration, Chief, Management Division, at (202) 482–2196, Room 4888, Washington, DC 20230.

SUPPLEMENTARY INFORMATION: The purpose of the Performance Review Board is to review and make recommendations to the appointing authority on performance management issues such as appraisals, bonuses, pay level increases, and Presidential Rank Awards for members of the Senior Executive Service.

The Assistant Secretary for Communications and Information, John M. R. Kneuer, has named the following members of the National Telecommunications and Information Administration's Performance Review Board:

1. Daniel C. Hurley, Director, Communications and Information Infrastructure Assurance Program (Chairperson)
2. Bernadette McGuire-Rivera, Associate Administrator for Telecommunications and Information Applications (existing)
3. Renee Macklin, Chief Information Officer, International Trade Administration, (Outside reviewer, new)
4. Alan W. Vincent, Associate Administrator for Telecommunications Sciences and Director, Institute for Telecommunication Sciences (existing)
5. Michael J. Crison, Director, Requirements, Planning and Systems Integration Division, National Oceanic and Atmospheric Administration (Outside reviewer)
6. Karl B. Nebbia, Associate Administrator for Spectrum Management (new)

Dated: October 5, 2007.

Deborah Martin,

Acting, Human Resources Officer.

[FR Doc. E7–20740 Filed 10–19–07; 8:45 am]

BILLING CODE 3510–60–P

COMMODITY FUTURES TRADING COMMISSION

Agency Information Collection Activities Under OMB Review

AGENCY: Commodity Futures Trading Commission.

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*), this notice announces that the Information Collection Request (ICR) abstracted below has been forwarded to the Office of Management and Budget (OMB) for review and comment. The ICR describes the nature of the information collection and its expected costs and burden; it includes the actual data collection instruments [if any].

DATES: Comments must be submitted on or before November 21, 2007.

FOR FURTHER INFORMATION OR A COPY CONTACT: John P. Dolan at (202) 418–5220; FAX: (202) 418–5524; e-mail: *mailto:jdolan@cftc.gov Imauldin@cftc.gov* and refer to OMB Control No. 3038–0025.

SUPPLEMENTARY INFORMATION:

Title: Practice by Former Members and Employees of the Commission (OMB Control No. 3038–0025). This is a request for extension of a currently approved information collection.

Abstract: Commission Rule 140.735–6 governs the practice before the Commission of former members and employees of the Commission and is intended to ensure that the Commission is aware of any existing conflict of interest. The rule generally requires former members and employees who are employed or retained to represent any person before the Commission within two years of the termination of their CFTC employment to file a brief written statement with the Commission's Office of General Counsel. The proposed rule was promulgated pursuant to the Commission's rulemaking authority contained in Section 8a(5) of the Commodity Exchange Act, 7 U.S.C. 12a(5), (1994), as amended.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB

control number. The OMB control numbers for the CFTC's regulations were published on December 30, 1981. See 46 FR 63035 (Dec. 30, 1981). The **FEDERAL REGISTER** notice with a 60-day comment period soliciting comments on this collection of information was published on August 14, 2007 (72 FR 45420).

Burden statement: The respondent burden for this collection is estimated to average .10 hours per response to file the brief written statement. This estimate includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; and transmit or otherwise disclose the information.

Respondents/Affected Entities: 3.

Estimated number of responses: 4.5.

Estimated total annual burden on respondents: .10 hours.

Frequency of collection: On occasion.

Send comments regarding the burden estimated or any other aspect of the information collection, including suggestions for reducing the burden, to the addresses listed below. Please refer to OMB Control No. 3038–0025 in any correspondence.

John P. Dolan, Office of General Counsel, U.S. Commodity Futures Trading Commission, 1155 21st Street, NW., Washington, DC 20581 and Office of Information and Regulatory Affairs, Office of Management and Budget, Attention: Desk Officer for CFTC, 725 17th Street, Washington, DC 20503.

Dated: October 16, 2007.

David A. Stawick,

Secretary of the Commission.

[FR Doc. 07–5184 Filed 10–19–07; 8:45 am]

BILLING CODE 6351–01–M

COMMODITY FUTURES TRADING COMMISSION

Agency Information Collection Activities: Proposed Collection; Comment Request: Rules Pertaining to Contract Markets and Their Members

AGENCY: Commodity Futures Trading Commission.

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), this notice announces that the Information Collection Request (ICR) abstracted below has been forwarded to the Office of Management and Budget (OMB) for review and comment. The ICR describes the nature of the information collection and its expected costs and burden; it includes the actual data collection instruments [if any].

DATES: Comments must be submitted on or before November 21, 2007.

FOR FURTHER INFORMATION CONTACT: Riva Spear Adriance, Commodity Futures Trading Commission, Division of Market Oversight, 202–418–5494, fax 202–418–5527, e-mail *radriance@cftc.gov,* and refer to OMB Control No. 3038–0022.

SUPPLEMENTARY INFORMATION:

Title: Rules Pertaining to Contract Markets and Their Members (OMB Control No. 3038–0022). This is a request for extension of a currently approved information collection.

Abstract: Section 5c(c) of the Commodity Exchange Act, 7 U.S.C. 7a–2(c), establishes procedures for registered entities (designated contract markets, registered derivatives transaction execution facilities and registered derivatives clearing organizations) to implement new rules and rule amendments by either seeking prior approval or (for most rules) certifying to the Commission that such rules or rule amendments do not violate the Act or Commission regulations. Rules 40.2, 40.3, 40.4, 40.5 and 40.6 implement these statutory provisions.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the CFTC's regulations were published on December 30, 1981. See 46 FR 63035 (Dec. 30, 1981). The **Federal Register** notice with a 60-day comment period soliciting comments on this collection of information was published on August 15, 2007 (72 FR 45759).

Burden Statement: The respondent burden for this collection is estimated to average .83 hours per response. These estimates include the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; and transmit or otherwise disclose the information.

Respondents/Affected Entities: 11,006.

Estimated number of responses: 13,118.

Estimated total annual burden on respondents: 57 hours.

Frequency of collection: On occasion.

Send comments regarding the burden estimated or any other aspect of the information collection, including suggestions for reducing the burden, to the addresses listed below. Please refer to OMB Control No. 3038–0022 in any correspondence.

Riva Spear Adriance, Division of Market Oversight, U.S. Commodity Futures Trading Commission, 1155 21st Street, NW., Washington, DC 20581, and Office of Information and Regulatory Affairs, Office of Management and Budget, Attention: Desk Officer for CFTC, 725 17th Street, Washington, DC 20503.

Dated: October 16, 2007.

David A. Stawick,

Secretary of the Commission.

[FR Doc. 07–5185 Filed 10–19–07; 8:45 am]

BILLING CODE 6351–01–M

DEPARTMENT OF EDUCATION

Submission for OMB Review; Comment Request

AGENCY: Department of Education.

SUMMARY: The IC Clearance Official, Regulatory Information Management Services, Office of Management invites comments on the submission for OMB review as required by the Paperwork Reduction Act of 1995.

DATES: Interested persons are invited to submit comments on or before November 21, 2007.

ADDRESSES: Written comments should be addressed to the Office of Information and Regulatory Affairs, Attention: Education Desk Officer, Office of Management and Budget, 725 17th Street, NW., Room 10222, Washington, DC 20503. Commenters are encouraged to submit responses electronically by email to *oira_submission@omb.eop.gov* or via fax to (202) 395–6974. Commenters should include the following subject line in their response ''Comment: [insert OMB number], [insert abbreviated collection name, e.g., ''Upward Bound Evaluation'']. Persons submitting comments electronically should not submit paper copies.

SUPPLEMENTARY INFORMATION: Section 3506 of the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires that the Office of Management and Budget (OMB) provide interested Federal agencies and the public an early opportunity to comment on information

collection requests. OMB may amend or waive the requirement for public consultation to the extent that public participation in the approval process would defeat the purpose of the information collection, violate State or Federal law, or substantially interfere with any agency's ability to perform its statutory obligations. The IC Clearance Official, Regulatory Information Management Services, Office of Management, publishes that notice containing proposed information collection requests prior to submission of these requests to OMB. Each proposed information collection, grouped by office, contains the following: (1) Type of review requested, e.g. new, revision, extension, existing or reinstatement; (2) Title; (3) Summary of the collection; (4) Description of the need for, and proposed use of, the information; (5) Respondents and frequency of collection; and (6) Reporting and/or Recordkeeping burden. OMB invites public comment.

Dated: October 16, 2007.

Angela C. Arrington,

IC Clearance Official, Regulatory Information Management Services, Office of Management.

Office of Elementary and Secondary Education

Type of Review: Extension.

Title: Improving Literacy Through School Libraries.

Frequency: Annually.

Affected Public: State, Local, or Tribal Gov't, SEAs or LEAs.

Reporting and Recordkeeping Hour Burden:

Responses: 100.

Burden Hours: 500.

Abstract: This information is required by the Program Statute under Title I of the Elementary and Secondary Education Act (ESEA), as amended by the No Child Left Behind Act, Part B, Subpart 4, Section 1251(h)(1). Each respondent will report on ''* * * how the funding was used and the extent to which the availability of, the access to, and the use of, up-to-date school library media resources in the elementary and secondary schools served by the eligible local educational agency was increased.'' This final report makes specific requests for easily retrieved information on each approved activity, personnel descriptions and outcomes that cannot be derived from any other information collection.

In addition, under (j)(1) NATIONAL ACTIVITIES, the statute requires independent evaluations of the activities supported by funds and their impact on improving the reading skills of students not later than three years after the date of the enactment of the No Child Left Behind Act of 2001 and biennially thereafter. This information collection is one of three sources of data for the Congressionally mandated program evaluation.

Requests for copies of the information collection submission for OMB review may be accessed from *http://edicsweb.ed.gov*, by selecting the ''Browse Pending Collections'' link and by clicking on link number 3443. When you access the information collection, click on ''Download Attachments'' to view. Written requests for information should be addressed to U.S. Department of Education, 400 Maryland Avenue, SW., Potomac Center, 9th Floor, Washington, DC 20202–4700. Requests may also be electronically mailed to *ICDocketMgr@ed.gov* or faxed to 202–245–6623. Please specify the complete title of the information collection when making your request.

Comments regarding burden and/or the collection activity requirements should be electronically mailed to *ICDocketMgr@ed.gov*. Individuals who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1–800–877–8339.

[FR Doc. E7–20752 Filed 10–19–07; 8:45 am]

BILLING CODE 4000–01–P

DEPARTMENT OF EDUCATION

Office of Postsecondary Education; Overview Information; Undergraduate International Studies and Foreign Language Program; Notice Inviting Applications for New Awards for Fiscal Year (FY) 2008

Catalog of Federal Domestic Assistance (CFDA) Number: 84.016A.

DATES:

Applications Available: October 22, 2007.

Deadline for Transmittal of Applications: November 26, 2007.

Deadline for Intergovernmental Review: January 25, 2008.

Full Text of Announcement

I. Funding Opportunity Description

Purpose of Program: The Undergraduate International Studies and Foreign Language (UISFL) Program provides grants to strengthen and improve undergraduate instruction in international studies and foreign languages.

Priorities: This notice contains two competitive preference priorities and two invitational priorities. In accordance with 34 CFR 75.105(b)(2)(ii), Competitive Preference Priority 1 is from the regulations for this program (34 CFR 658.35). Competitive Preference Priority 2 is from the notice of final priorities for discretionary grant programs, published in the **Federal Register** on October 11, 2006 (71 FR 60046).

Competitive Preference Priority 1: For FY 2008 this priority is a competitive preference priority. Under 34 CFR 75.105(c)(2)(i) we award an additional five points to an application that meets these priorities.

This priority is:

Applications that (a) require entering students to have successfully completed at least two years of secondary school foreign language instruction; (b) require each graduating student to earn two years of postsecondary credit in a foreign language or to have demonstrated equivalent competence in the foreign language; or (c) in the case of a two-year degree granting institution, offer two years of postsecondary credit in a foreign language.

Competitive Preference Priority 2: For FY 2008 this priority is a competitive preference priority. Under 34 CFR 75.105(c)(2)(i) we award an additional five points to an application that meets this priority.

This priority is:

Projects that support activities to enable students to achieve proficiency or advanced proficiency or to develop programs in one or more of the following less commonly taught languages: Arabic, Chinese, Korean, Japanese, Russian, and languages in the Indic, Iranian, and Turkic language families.

Under this competition, we are particularly interested in applications that address the following priorities.

Invitational Priorities: For FY 2008, these priorities are invitational priorities. Under 34 CFR 75.105(c)(1) we do not give an application that meets these invitational priorities a competitive or absolute preference over other applications.

These priorities are:

Invitational Priority 1: Applications that propose projects that provide in-service training for K–12 teachers in foreign languages and international studies and that strengthen instruction in foreign languages and international studies in teacher education programs.

Invitational Priority 2: Applications that propose projects that include a plan for assessment of student foreign language competency. A plan of assessment should include clearly defined student-learning outcomes and externally validated assessment approaches. The applicant should describe procedures for utilizing the

assessment data to improve foreign language program effectiveness.

Program Authority: 20 U.S.C. 1124.

Applicable Regulations: (a) The Education Department General Administrative Regulations (EDGAR) in 34 CFR parts 74, 75, 77, 79, 82, 84, 85, 86, 97, 98 and 99. (b) The regulations in 34 CFR parts 655 and 658. (c) The notice of final priorities for discretionary grant programs, published in the **Federal Register** on October 11, 2006 (71 FR 60046).

Note: The regulations in 34 CFR part 79 apply to all applicants except federally recognized Indian tribes.

Note: The regulations in 34 CFR part 86 apply to Institutions of Higher Education (IHEs) only.

II. Award Information

Type of Award: Discretionary grants.

Estimated Available Funds: The Administration has requested $1,617,000 for new awards for this program for FY 2008. The actual level of funding, if any, depends on final congressional action. However, we are inviting applications to allow enough time to complete the grant process if Congress appropriates funds for this program.

Estimated Range of Awards: Single Institution: $50,000–$90,000. Consortia/Organizations/Associations: $80,000–$140,000.

Estimated Average Size of Awards: Single Institution: $82,000. Consortia/Organizations/Associations: $110,000.

Maximum Award: We will reject any application that proposes a budget exceeding $90,000 for a single budget period of 12 months for a single institution application and $140,000 for a single budget period of 12 months for a consortia/organization/association application. The Assistant Secretary for Postsecondary Education may change the maximum amount through a notice published in the **Federal Register**.

Estimated Number of Awards: 19.

Note: The Department is not bound by any estimates in this notice.

Project Period: Single Institutions: Up to 24 months. Consortia/Organizations/Associations: Up to 36 months.

III. Eligibility Information

1. *Eligible Applicants:* (1) IHEs; (2) combinations of IHEs; (3) partnerships between nonprofit educational organizations and IHEs; and (4) public and private nonprofit agencies and organizations, including professional and scholarly associations.

2. *Cost Sharing or Matching:* This program has a matching requirement under Title VI, part A, section 604(a)(3) of the Higher Education Act of 1965, as amended (HEA), 20 U.S.C. 1124(a)(3), and the regulations for this program in 34 CFR 658.41. UISFL Program grantees must provide matching funds in either of the following ways: (a) cash contributions from private sector corporations or foundations equal to one-third of the total project costs; or (b) a combination of institutional and non-institutional cash or in-kind contributions including State and private sector corporation or foundation contributions, equal to one-half of the total project costs. The Secretary may waive or reduce the required matching share for institutions that are eligible to receive assistance under part A or part B of Title III or under Title V of the HEA.

IV. Application and Submission Information

1. *Address to Request Application Package:* Christine Corey, International Education Programs Service, U.S. Department of Education, 1990 K Street, NW., room 6069, Washington, DC 20006–8521. Telephone: (202) 502–7629 or by e-mail: *christine.corey@ed.gov*.

If you use a telecommunications device for the deaf (TDD), call the Federal Relay Service (FRS), toll free, at 1–800–877–8339.

Individuals with disabilities can obtain a copy of the application package in an alternative format (*e.g.*, Braille, large print, audiotape, or computer diskette) by contacting the program contact person listed in this section.

2. *Content and Form of Application Submission:* Requirements concerning the content of an application, together with the forms you must submit, are in the application package for this competition.

Page Limit: The application narrative is where you, the applicant, address the selection criteria that reviewers use to evaluate your application. You must limit the application narrative (Part III) to no more than 40 pages, using the following standards:

- A ''page'' is 8.5″ x 11″, on one side only, with 1″ margins at the top, bottom, and both sides. Page numbers and an identifier may be outside of the 1″ margin.
- Double space (no more than three lines per vertical inch) all text in the application narrative, *except* titles, headings, footnotes, quotations, references, captions, and all text in charts, tables, and graphs may be single spaced. Charts, tables, figures, and graphs in the application narrative count toward the page limit.
- Use a font that is either 12-point or larger or no smaller than 10-point (characters per inch). However, you may use a 10-point font in charts, tables, figures, and graphs.
- Use one of the following fonts: Times New Roman, Courier, Courier New, or Arial. Applications submitted in any other font (including Times Roman and Arial Narrow) will not be accepted.

The page limit does not apply to Part I, the Application for Federal Assistance face sheet (SF 424); the supplemental information form required by the Department; Part II, the budget section, including the narrative budget justification; and Part IV, the assurances and certifications. The page limit also does not apply to a table of contents. If you include any attachments or appendices not specifically requested, these items will be counted as part of the Program Narrative (Part III) for purposes of the page limit requirement. You must include your complete response to the selection criteria in the program narrative.

We will reject your application if you exceed the page limit.

3. *Submission Dates and Times:*

Applications Available: October 22, 2007.

Deadline for Transmittal of Applications: November 26, 2007.

Applications for grants under this program must be submitted electronically using the Grants.gov Apply site (Grants.gov). For information (including dates and times) about how to submit your application electronically, or in paper format by mail or hand delivery if you qualify for an exception to the electronic submission requirement, please refer to section IV. 6. *Other Submission Requirements* in this notice.

We do not consider an application that does not comply with the deadline requirements.

Individuals with disabilities who need an accommodation or auxiliary aid in connection with the application process should contact the person listed under **FOR FURTHER INFORMATION CONTACT** in section VII in this notice. If the Department provides an accommodation or auxiliary aid to an individual with a disability in connection with the application process, the individual's application remains subject to all other requirements and limitations in this notice.

Deadline for Intergovernmental Review: January 25, 2008.

4. *Intergovernmental Review:* This competition is subject to Executive Order 12372 and the regulations in 34

CFR part 79. Information about Intergovernmental Review of Federal Programs under Executive Order 12372 is in the application package for this competition.

5. *Funding Restrictions:* We reference regulations outlining funding restrictions in the *Applicable Regulations* section in this notice.

6. *Other Submission Requirements:* Applications for grants under this competition must be submitted electronically unless you qualify for an exception to this requirement in accordance with the instructions in this section.

a. *Electronic Submission of Applications.*

Applications for grants under the UISFL Program, CFDA Number 84.016A, must be submitted electronically using the Governmentwide Grants.gov Apply site at *http://www.Grants.gov.* Through this site, you will be able to download a copy of the application package, complete it offline, and then upload and submit your application. You may not e-mail an electronic copy of a grant application to us.

We will reject your application if you submit it in paper format unless, as described elsewhere in this section, you qualify for one of the exceptions to the electronic submission requirement *and* submit, no later than two weeks before the application deadline date, a written statement to the Department that you qualify for one of these exceptions. Further information regarding calculation of the date that is two weeks before the application deadline date is provided later in this section under *Exception to Electronic Submission Requirement.*

You may access the electronic grant application for the UISFL Program at *http://www.Grants.gov.* You must search for the downloadable application package for this competition by the CFDA number. Do not include the CFDA number's alpha suffix in your search (e.g., search for 84.016, not 84.016A).

Please note the following:

- When you enter the Grants.gov site, you will find information about submitting an application electronically through the site, as well as the hours of operation.
- Applications received by Grants.gov are date and time stamped. Your application must be fully uploaded and submitted and must be date and time stamped by the Grants.gov system no later than 4:30 p.m., Washington, DC time, on the application deadline date. Except as otherwise noted in this section, we will not consider your application if it is date and time stamped by the Grants.gov system later than 4:30 p.m., Washington, DC time, on the application deadline date. When we retrieve your application from Grants.gov, we will notify you if we are rejecting your application because it was date and time stamped by the Grants.gov system after 4:30 p.m., Washington, DC time, on the application deadline date.
- The amount of time it can take to upload an application will vary depending on a variety of factors, including the size of the application and the speed of your Internet connection. Therefore, we strongly recommend that you do not wait until the application deadline date to begin the submission process through Grants.gov.
- You should review and follow the Education Submission Procedures for submitting an application through Grants.gov that are included in the application package for this competition to ensure that you submit your application in a timely manner to the Grants.gov system. You can also find the Education Submission Procedures pertaining to Grants.gov at *http://e-Grants.ed.gov/help/GrantsgovSubmissionProcedures.pdf.*
- To submit your application via Grants.gov, you must complete all steps in the Grants.gov registration process (see *http://www.grants.gov/applicants/get_registered.jsp*). These steps include (1) registering your organization, a multi-part process that includes registration with the Central Contractor Registry (CCR); (2) registering yourself as an Authorized Organization Representative (AOR); and (3) getting authorized as an AOR by your organization. Details on these steps are outlined in the Grants.gov 3-Step Registration Guide (see *http://www.grants.gov/section910/Grants.govRegistrationBrochure.pdf*). You also must provide on your application the same D-U-N-S Number used with this registration. Please note that the registration process may take five or more business days to complete, and you must have completed all registration steps to allow you to submit successfully an application via Grants.gov. In addition you will need to update your CCR registration on an annual basis. This may take three or more business days to complete.
- You will not receive additional point value because you submit your application in electronic format, nor will we penalize you if you qualify for an exception to the electronic submission requirement, as described elsewhere in this section, and submit your application in paper format.
- You must submit all documents electronically, including all information you typically provide on the following forms: Application for Federal Assistance (SF 424), the Department of Education Supplemental Information for SF 424, the Department of Education Budget Information—Non-Construction Programs (ED 524), and all necessary assurances and certifications. Please note that two of these forms—the SF 424 and the Department of Education Supplemental Information for SF 424—have replaced the ED 424 (Application for Federal Education Assistance).
- You must attach any narrative sections of your application as files in a .DOC (document), .RTF (rich text), or .PDF (Portable Document) format. If you upload a file type other than the three file types specified in this paragraph or submit a password-protected file, we will not review that material.
- Your electronic application must comply with any page-limit requirements described in this notice.
- After you electronically submit your application, you will receive from Grants.gov an automatic notification of receipt that contains a Grants.gov tracking number. (This notification indicates receipt by Grants.gov only, not receipt by the Department.) The Department then will retrieve your application from Grants.gov and send a second notification to you by e-mail. This second notification indicates that the Department has received your application and has assigned your application a PR/Award number (an ED-specified identifying number unique to your application).
- We may request that you provide us original signatures on forms at a later date.

Application Deadline Date Extension in Case of Technical Issues with the Grants.gov System: If you are experiencing problems submitting your application through Grants.gov, please contact the Grants.gov Support Desk, toll free, at 1–800–518–4726. You must obtain a Grants.gov Support Desk Case Number and must keep a record of it.

If you are prevented from electronically submitting your application on the application deadline date because of technical problems with the Grants.gov system, we will grant you an extension until 4:30 p.m., Washington, DC time, the following business day to enable you to transmit your application electronically or by hand delivery. You also may mail your application by following the mailing instructions described elsewhere in this notice.

If you submit an application after 4:30 p.m., Washington, DC time, on the

application deadline date, please contact the person listed under **FOR FURTHER INFORMATION CONTACT** in section VII in this notice and provide an explanation of the technical problem you experienced with Grants.gov, along with the Grants.gov Support Desk Case Number. We will accept your application if we can confirm that a technical problem occurred with the Grants.gov system and that that problem affected your ability to submit your application by 4:30 p.m., Washington, DC time, on the application deadline date. The Department will contact you after a determination is made on whether your application will be accepted.

Note: The extensions to which we refer in this section apply only to the unavailability of, or technical problems with, the Grants.gov system. We will not grant you an extension if you failed to fully register to submit your application to Grants.gov before the application deadline date and time or if the technical problem you experienced is unrelated to the Grants.gov system.

Exception to Electronic Submission Requirement: You qualify for an exception to the electronic submission requirement, and may submit your application in paper format, if you are unable to submit an application through the Grants.gov system because—

- You do not have access to the Internet; or
- You do not have the capacity to upload large documents to the Grants.gov system; and
- No later than two weeks before the application deadline date (14 calendar days or, if the fourteenth calendar day before the application deadline date falls on a Federal holiday, the next business day following the Federal holiday), you mail or fax a written statement to the Department, explaining which of the two grounds for an exception prevent you from using the Internet to submit your application.
- If you mail your written statement to the Department, it must be postmarked no later than two weeks before the application deadline date. If you fax your written statement to the Department, we must receive the faxed statement no later than two weeks before the application deadline date.

Address and mail or fax your statement to: Christine Corey, International Education Programs Service, U.S. Department of Education, 1990 K Street, NW., room 6069, Washington, DC 20006–8521. Fax: (202) 502–7859.

Your paper application must be submitted in accordance with the mail or hand delivery instructions described in this notice.

b. *Submission of Paper Applications by Mail.*

If you qualify for an exception to the electronic submission requirement, you may mail (through the U.S. Postal Service or a commercial carrier) your application to the Department. You must mail the original and two copies of your application, on or before the application deadline date, to the Department at the applicable following address:

By mail through the U.S. Postal Service:

U.S. Department of Education, Application Control Center, Attention: (CFDA Number 84.016A), 400 Maryland Avenue, SW., Washington, DC 20202–4260; or

By mail through a commercial carrier:

U.S. Department of Education, Application Control Center, Stop 4260, Attention: (CFDA Number 84.016A), 7100 Old Landover Road, Landover, MD 20785–1506.

Regardless of which address you use, you must show proof of mailing consisting of one of the following:

(1) A legibly dated U.S. Postal Service postmark.

(2) A legible mail receipt with the date of mailing stamped by the U.S. Postal Service.

(3) A dated shipping label, invoice, or receipt from a commercial carrier.

(4) Any other proof of mailing acceptable to the Secretary of the U.S. Department of Education.

If you mail your application through the U.S. Postal Service, we do not accept either of the following as proof of mailing:

(1) A private metered postmark.

(2) A mail receipt that is not dated by the U.S. Postal Service.

If your application is postmarked after the application deadline date, we will not consider your application.

Note: The U.S. Postal Service does not uniformly provide a dated postmark. Before relying on this method, you should check with your local post office.

c. *Submission of Paper Applications by Hand Delivery.*

If you qualify for an exception to the electronic submission requirement, you (or a courier service) may deliver your paper application to the Department by hand. You must deliver the original and two copies of your application, by hand, on or before the application deadline date, to the Department at the following address: U.S. Department of Education, Application Control Center, Attention: (CFDA Number 84.016A), 550 12th Street, SW., Room 7041, Potomac Center Plaza, Washington, DC 20202–4260. The Application Control Center accepts hand deliveries daily between 8 a.m. and 4:30 p.m., Washington, DC time, except Saturdays, Sundays, and Federal holidays.

Note for Mail or Hand Delivery of Paper Applications: If you mail or hand deliver your application to the Department—

(1) You must indicate on the envelope and—if not provided by the Department—in Item 11 of the SF 424 the CFDA number, including suffix letter, if any, of the competition under which you are submitting your application; and

(2) The Application Control Center will mail to you a notification of receipt of your grant application. If you do not receive this notification within 15 business days from the application deadline date, you should call the U.S. Department of Education Application Control Center at (202) 245–6288.

V. Application Review Information

1. *General:* For FY 2008, applications will be randomly divided and reviewed by separate panels of language and area studies experts. A rank order from highest to lowest score will be developed and used for funding purposes.

2. *Selection Criteria:* The selection criteria for this program are from 34 CFR 658.31 through 658.34. The following criteria are used to evaluate all applications: (a) Plan of operation (15 points); (b) quality of key personnel (10 points); (c) budget and cost effectiveness (10 points); (d) adequacy of resources (5 points); and (e) evaluation plan (20 points). The following additional criteria are applied to applications submitted by an IHE or a combination of IHEs: (a) Commitment to international studies (10 points); (b) elements of the proposed international studies program (10 points); and (c) need for and prospective results of the proposed program (10 points). The following additional criterion is applied to applications from organizations and associations: Need for and potential impact of the proposed project in improving international studies and the study of modern foreign languages at the undergraduate level (30 points).

VI. Award Administration Information

1. *Award Notices:* If your application is successful, we notify your U.S. Representative and U.S. Senators and send you a Grant Award Notice (GAN). We may notify you informally, also.

If your application is not evaluated or not selected for funding, we notify you.

2. *Administrative and National Policy Requirements:* We identify administrative and national policy requirements in the application package and reference these and other

requirements in the *Applicable Regulations* section in this notice.

We reference the regulations outlining the terms and conditions of an award in the *Applicable Regulations* section in this notice and include these and other specific conditions in the GAN. The GAN also incorporates your approved application as part of your binding commitments under the grant.

3. *Reporting:* At the end of your project period, you must submit a final performance report, including financial information, as directed by the Secretary. If you receive a multi-year award, you must submit an annual performance report that provides the most current performance and financial expenditure information as directed by the Secretary under 34 CFR 75.118. The Secretary may also require more frequent performance reports under 34 CFR 75.720(c). For specific requirements on reporting, please go to *http://www.ed.gov/fund/grant/apply/appforms/appforms.html.*

4. *Performance Measures:* Under the Government Performance and Results Act of 1993 (GPRA), the objective for the UISFL program is to meet the nation's security and economic needs through the development of a national capacity in foreign languages and area and international studies.

The Department will use the following UISFL performance measures to evaluate its success in meeting this objective: (1) Percentage of critical languages addressed/covered by foreign language major, minor, or certificate programs created or enhanced, by language courses created or enhanced, or by faculty or instructor positions created with UISFL or matching funds in the reporting period. (2) Percentage of projects reported and validated as high quality or successfully completed.

The information provided by grantees in their performance reports submitted via the electronic International Resource Information System (IRIS) will be the source of data for this measure.

VII. Agency Contact

FOR FURTHER INFORMATION CONTACT: Christine Corey, International Education Programs Service, U.S. Department of Education, 1990 K Street, NW., room 6069, Washington, DC 20006–8521. Telephone: (202) 502–7629 or by e-mail: *christine.corey@ed.gov*.

If you use a TDD, call the FRS, toll free, at 1–800–877–8339.

VIII. Other Information

Alternative Format: Individuals with disabilities can obtain this document and a copy of the application package in an alternative format (e.g., Braille, large print, audiotape, or computer diskette) on request to the program contact person listed under **FOR FURTHER INFORMATION CONTACT** in section VII in this notice.

Electronic Access to This Document: You can view this document, as well as all other documents of this Department published in the **Federal Register**, in text or Adobe Portable Document Format (PDF) on the Internet at the following site: *http://www.ed.gov/news/fedregister.*

To use PDF you must have Adobe Acrobat Reader, which is available free at this site. If you have questions about using PDF, call the U.S. Government Printing Office (GPO), toll free, at 1–888–293–6498; or in the Washington, DC, area at (202) 512–1530.

Note: The official version of this document is the document published in the **Federal Register**. Free Internet access to the official edition of the **Federal Register** and the Code of Federal Regulations is available on GPO Access at: *http://www.gpoaccess.gov/nara/index.html.*

Dated: October 17, 2007.

Diane Auer Jones,

Assistant Secretary for Postsecondary Education.

[FR Doc. E7–20762 Filed 10–19–07; 8:45 am]

BILLING CODE 4000–01–P

DEPARTMENT OF ENERGY

Environmental Management Site-Specific Advisory Board, Idaho National Laboratory

AGENCY: Department of Energy.

ACTION: Notice of open meeting.

SUMMARY: This notice announces a meeting of the Environmental Management Site-Specific Advisory Board (EM SSAB), Idaho National Laboratory. The Federal Advisory Committee Act (Pub. L. 92–463, 86 Stat. 770) requires that public notice of this meeting be announced in the **Federal Register**.

DATES: Tuesday, November 6, 2007, 8 a.m.–5:30 p.m.

Opportunities for public participation will be held from 1 to 1:15 p.m. and 4 to 4:15 p.m.

These times are subject to change; please contact the Federal Coordinator (below) for confirmation of times prior to the meeting.

ADDRESSES: AmeriTel Inn, 645 Lindsey Boulevard, Idaho Falls, Idaho 83401.

FOR FURTHER INFORMATION CONTACT: Robert L. Pence, Federal Coordinator, Department of Energy, Idaho Operations Office, 1955 Fremont Avenue, MS–1203, Idaho Falls, ID 83415. Phone (208) 526–6518; Fax (208) 526–8789 or e-mail: *pencerl@id.doe.gov* or visit the Board's Internet home page at: *http://www.inlemcab.org.*

SUPPLEMENTARY INFORMATION:

Purpose of the Board: The purpose of the Board is to make recommendations to DOE in the areas of environmental restoration, waste management, and related activities.

Tentative Topics (agenda topics may change up to the day of the meeting; please contact Robert L. Pence for the most current agenda):

- Progress to Cleanup
- Waste Area Group 7 Proposed Plan
- Chemical Processing Plant (CPP)–601 Status
- Special Nuclear Material
- Engineering Test Reactor After Action Briefing

Public Participation: The meeting is open to the public. Written statements may be filed with the Board either before or after the meeting. Individuals who wish to make oral presentations pertaining to agenda items should contact Robert L. Pence at the address or telephone number listed above. The request must be received five days prior to the meeting and reasonable provision will be made to include the presentation in the agenda. The Deputy Designated Federal Officer is empowered to conduct the meeting in a fashion that will facilitate the orderly conduct of business. Individuals wishing to make public comment will be provided a maximum of five minutes to present their comments.

Minutes: Minutes will be available by writing or calling Robert L. Pence, Federal Coordinator, at the address and phone number listed above. Minutes will also be available at the following Web site *http://www.inlemcab.org/meetings.html.*

Issued at Washington, DC on October 17, 2007.

Rachel Samuel,

Deputy Advisory Committee Management Officer.

[FR Doc. E7–20689 Filed 10–19–07; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[RT01–99–000, RT01–99–001, RT01–99–002 and RT01–99–003; RT01–86–000, RT01–86–001 and RT01–86–002; RT01–95–000, RT01–95–001 and RT01–95–002; RT01–2–000, RT01–2–001, RT01–2–002 and RT01–2–003; RT01–98–000; RT02–3–000]

Regional Transmission Organizations; Bangor Hydro-Electric Company, et al.; New York Independent System Operator, Inc., et al.; PJM Interconnection, L.L.C., et al.; PJM Interconnection, L.L.C.; ISO New England, Inc.; New York Independent System Operator, Inc.; Notice of Filing

October 12, 2007.

Take notice that PJM Interconnection, L.L.C., New York Independent System Operator, Inc. and ISO New England, Inc. have posted on their internet Web sites information updating their progress on the resolution of Regional Transmission Organization seams.

Any person desiring to file comments on this information should file with the Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). All such comments should be filed on or before the comment date. Comments may be filed electronically via the Internet in lieu of paper; see 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's Web site under the ''e-Filing'' link. The Commission strongly encourages electronic filings.

Comment Date: November 6, 2007.

Kimberly D. Bose,

Secretary.

[FR Doc. E7–20708 Filed 10–19–07; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket Nos. ER07–1215–000 and ER07–1215–001]

The Royal Bank of Scotland, plc; Notice of Issuance of Order

October 12, 2007.

The Royal Bank of Scotland, plc (RBS) filed an application for market-based rate authority, with an accompanying rate schedule. The proposed market-based rate schedule provides for the sale of energy, capacity and ancillary services at market-based rates. RBS also requested waivers of various Commission regulations. In particular, RBS requested that the Commission grant blanket approval under 18 CFR part 34 of all future issuances of securities and assumptions of liability by RBS.

On October 12, 2007, pursuant to delegated authority, the Director, Division of Tariffs and Market Development-West, granted the requests for blanket approval under Part 34 (Director's Order). The Director's Order also stated that the Commission would publish a separate notice in the **Federal Register** establishing a period of time for the filing of protests. Accordingly, any person desiring to be heard concerning the blanket approvals of issuances of securities or assumptions of liability by RBS, should file a protest with the Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure. 18 CFR 385.211, 385.214 (2004).

Notice is hereby given that the deadline for filing protests is November 13, 2007.

Absent a request to be heard in opposition to such blanket approvals by the deadline above, RBS is authorized to issue securities and assume obligations or liabilities as a guarantor, indorser, surety, or otherwise in respect of any security of another person; provided that such issuance or assumption is for some lawful object within the corporate purposes of RBS, compatible with the public interest, and is reasonably necessary or appropriate for such purposes.

The Commission reserves the right to require a further showing that neither public nor private interests will be adversely affected by continued approvals of RBS' issuance of securities or assumptions of liability.

Copies of the full text of the Director's Order are available from the Commission's Public Reference Room, 888 First Street, NE., Washington, DC 20426. The Order may also be viewed on the Commission's Web site at *http://www.ferc.gov,* using the eLibrary link. Enter the docket number excluding the last three digits in the docket number filed to access the document. Comments, protests, and interventions may be filed electronically via the internet in lieu of paper. See, 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's Web site under the ''e-Filing'' link. The Commission strongly encourages electronic filings.

Kimberly D. Bose,

Secretary.

[FR Doc. E7–20709 Filed 10–19–07; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. CP07–451–000]

Black Bayou Storage, LLC; Notice of Intent To Prepare an Environmental Assessment for the Proposed Black Bayou Gas Storage Project and Request for Comments on Environmental Issues

October 12, 2007.

The staff of the Federal Energy Regulatory Commission (FERC or Commission) will prepare an environmental assessment (EA) that will discuss the environmental impacts of the Black Bayou Gas Storage Project involving construction and operation of facilities by Black Bayou Storage, LLC (BBS) in Cameron Parrish, Louisiana.

This notice announces the opening of the scoping process we will use to gather input from the public and interested agencies on the project. Your input will help the Commission staff determine which issues need to be evaluated in the EA. Please note that the scoping period will close on November 30, 2007.

This notice is being sent to affected landowners; federal, state, and local government representatives and agencies; environmental and public interest groups; Native American tribes; other interested parties in this proceeding; and local libraries and newspapers. We encourage government representatives to notify their constituents of this planned project and encourage them to comment on their areas of concern.

If you are a landowner receiving this notice, you may be contacted by a pipeline company representative about the acquisition of an easement to construct, operate, and maintain the proposed facilities. The pipeline company would seek to negotiate a mutually acceptable agreement. However, if the project is approved by the Commission, that approval conveys with it the right of eminent domain. Therefore, if easement negotiations fail to produce an agreement, the pipeline company could initiate condemnation proceedings in accordance with state law.

A fact sheet prepared by the FERC entitled ''An Interstate Natural Gas Facility on My Land? What Do I Need To Know?'' was attached to the project notice BBS provided to landowners. This fact sheet addresses a number of typically asked questions, including the use of eminent domain and how to participate in the Commission's proceedings. It is available for viewing on the FERC Internet Web site (*www.ferc.gov*).

Summary of the Proposed Project

BBS proposes to convert a depleted natural gas production field in Cameron Parish Louisiana located 15 miles west of Hackberry, Louisiana but includes north into Calcasieu Parish for a short distance. The storage field design capacity of each cavern would be approximately 10.4 billion cubic feet (Bcf) consisting of 7.5 Bcf of working capacity and up to 2.9 Bdf of cushion gas. The caverns would have approximately 1,200 million cubic feet (MMcf) of maximum daily injection capability and approximately 1,200 MMcf of maximum daily withdrawal capability. BBS seeks authority to construct and operate the following facilities:

- Two salt dome storage caverns;
- One 18,940 horsepower compressor station;
- One leaching plant;
- Five brine disposal wells on one common pad;
- Five water supply wells on five separate pads;
- One electrical substation;
- One 30-inch-diameter, 2.45-mile-long gas pipeline interconnect with Transcontinental Gas Pipeline Corporation (Transco) mainline;
- One 24-inch-diameter, 4.69-mile-long gas pipeline interconnect with planned Kinder Morgan mainline;
- One 20-inch-diameter, 0.10-mile-long cavern gas pipeline for Cavern No. 1;
- One 20-inch-diameter, 0.25-mile-long cavern gas pipeline for Cavern No. 2;
- One 8-inch-, 12-inch-, and 16-inch-diameter, 2.20 mile-long water pipeline system;
- One 16-inch-diameter, 1.43 mile-long brine pipeline system;
- One meter station and one separate tie-in facility for Transco's pipeline interconnect;
- One meter station with combined tie-in facilities for the Kinder Morgan pipeline interconnect; and
- One 0.25-mile-long access road for Cavern Nos. 1 and 2.

Certain facilities of Diasu Oil and Gas Company (Diasu) including a tank farm would need to be dismantled, relocated or removed before BBS constructs its proposed compressor station and leaching facility on the site of Diasu's current facilities.

The location of the project facilities is shown in Appendix 1.[1]

Nonjurisdictional Facilities

Non-jurisdictional facilities that will be built as a result of the proposed project would include a 2.2 mile-long 230 kV electric powerline to be constructed by Entergy, Inc. (Entergy). The electric powerline would run between Entergy's existing 230 kV transmission line on the south bank of the Gulf Intracoastal Waterway and BBS's proposed electrical substation approximately 2,100 feet northwest of the Central Facility area. The electric powerline would require several environmental permits and approvals including state and federal authorization for work in waters of the U.S. (Coastal Use Permit) and clearances under the Endangered Species Act and the National Historic Preservation Act.

Land Requirements for Construction

Construction of the proposed facilities would require about 94.4 acres of land. Following construction, about 24.2 acres would be maintained as permanent pipeline right-of-way, new access roads, well sites, or new aboveground facility sites. The remaining 70.2 acres of land would be restored and allowed to revert to its former use.

The EA Process

The National Environmental Policy Act (NEPA) requires the Commission to take into account the environmental impacts that could result from an action whenever it considers the issuance of a Certificate of Public Convenience and Necessity. NEPA also requires us to discover and address concerns the public may have about proposals. This process is referred to as ''scoping.'' The main goal of the scoping process is to focus the analysis in the EA on the important environmental issues. By this Notice of Intent, the Commission staff requests public comments on the scope of the issues to address in the EA. All comments received are considered during the preparation of the EA. State and local government representatives are encouraged to notify their constituents of this proposed action and encourage them to comment on their areas of concern.

In the EA we[2] will discuss impacts that could occur as a result of the construction and operation of the proposed project under these general headings:

- Geology and soils
- Land use
- Water resources, fisheries, and wetlands
- Cultural resources
- Vegetation and wildlife
- Air quality and noise
- Endangered and threatened species
- Hazardous waste
- Public safety

We will also evaluate possible alternatives to the proposed project or portions of the project, and make recommendations on how to lessen or avoid impacts on the various resource areas.

Our independent analysis of the issues will be in the EA. Depending on the comments received during the scoping process, the EA may be published and mailed to federal, state, and local agencies, public interest groups, interested individuals, affected landowners, newspapers, libraries, and the Commission's official service list for this proceeding. A comment period will be allotted for review if the EA is published. We will consider all comments on the EA before we make our recommendations to the Commission.

To ensure your comments are considered, please carefully follow the instructions in the public participation section below.

Currently Identified Environmental Issues

We have already identified several issues that we think deserve attention based on a preliminary review of the proposed facilities and the environmental information provided by BBS. This preliminary list of issues may be changed based on your comments and our analysis.

- Cultural resources may be affected by the project.
- The project would cross two major waterbodies: Black Bayou and the Gulf Intracoastal Waterway.
- About 62.2 acres of wetlands, open water, and other land uses would be impacted during construction by underground pipeline and cable facilities, and about 6.8 acres of wetland

[1] The appendices referenced in this notice are not being printed in the **Federal Register**. Copies of all appendices, other than Appendix 1 (maps), are available on the Commission's Web site at the ''eLibrary'' link or from the Commission's Public Reference Room, 888 First Street, NE., Washington, DC 20426, or call (202) 502–8371. For instructions on connecting to eLibrary refer to the last page of this notice. Copies of the appendices were sent to all those receiving this notice in the mail.

[2] ''We'', ''us'', and ''our'' refer to the environmental staff of the Office of Energy Projects (OEP).

open water and other land uses would be impacted by above ground pipeline facilities.

• Two cavern well pads, electrical substation, part of the brine disposal well pad site, the Kinder Morgan meter station site, the Transco meter station, and Water Well Pad No. 1, would be constructed in marshland or open water and could potentially impact fisheries.

• Essential fish habitat for the brown shrimp, white shrimp, and red drum are likely to be of concern within the project area.

• The proposed project would encompass areas containing suitable nesting habitat for colonial wading birds.

Public Participation

You can make a difference by providing us with your specific comments or concerns about the project. By becoming a commentor, your concerns will be addressed in the EA/EIS and considered by the Commission. You should focus on the potential environmental effects of the proposal, alternatives to the proposal (including alternative locations/routes), and measures to avoid or lessen environmental impact. The more specific your comments, the more useful they will be. Please carefully follow these instructions to ensure that your comments are received in time and properly recorded:

• Send an original and two copies of your letter to:

Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First St., NE., Room 1A, Washington, DC 20426.

• Label one copy of the comments for the attention of Gas Branch 2.

• Reference Docket No. CP07–451–000.

• Mail your comments so that they will be received in Washington, DC on or before November 30, 2007.

Please note that the Commission encourages electronic filing of comments. See 18 Code of Federal Regulations 385.2001(a)(1)(iii) and the instructions on the Commission's Internet Web site at *http://www.ferc.gov* under the ''eFiling'' link and the link to the User's Guide. Prepare your submission in the same manner as you would if filing on paper and save it to a file on your hard drive. Before you can file comments you will need to create an account by clicking on ''Login to File'' and then ''New User Account.'' You will be asked to select the type of filing you are making. This filing is considered a ''Comment on Filing.''

Environmental Mailing List

An effort is being made to send this notice to all individuals, organizations, and government entities interested in and/or potentially affected by the proposed project. This includes all landowners who are potential right-of-way grantors, whose property may be used temporarily for project purposes, or who own homes within distances defined in the Commission's regulations of certain aboveground facilities. By this notice we are also asking governmental agencies, especially those in Appendix 2, to express their interest in becoming cooperating agencies for the preparation of the EA.

If you do not want to send comments at this time but still want to remain on our mailing list, please return the Information Request (Appendix 3). If you do not return the Information Request, you will be taken off the mailing list.

Becoming an Intervenor

In addition to involvement in the EA scoping process, you may want to become an official party to the proceeding, an ''intervenor''. To become an intervenor you must file a motion to intervene according to Rule 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.214). Intervenors have the right to seek rehearing of the Commission's decision. Motions to Intervene should be electronically submitted using the Commission's eFiling system at *www.ferc.gov.* Persons without Internet access should send an original and 14 copies of their motion to the Secretary of the Commission at the address indicated previously. Persons filing Motions to Intervene on or before the comment deadline indicated above must send a copy of the motion to the Applicant. All filings, including late interventions, submitted after the comment deadline must be served on the Applicant and all other intervenors identified on the Commission's service list for this proceeding. Persons on the service list with e-mail addresses may be served electronically; others must be served a hard copy of the filing.

Affected landowners and parties with environmental concerns may be granted intervenor status upon showing good cause by stating that they have a clear and direct interest in this proceeding which would not be adequately represented by any other parties. You do not need intervenor status to have your environmental comments considered.

Availability of Additional Information

Additional information about the project is available from the Commission's Office of External Affairs, at 1–866–208–FERC or on the FERC Internet Web site (*www.ferc.gov*) using the eLibrary link. Click on the eLibrary link, click on ''General Search'' and enter the docket number excluding the last three digits in the Docket Number field. Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at *FercOnlineSupport@ferc.gov* or toll free at 1–866–208–3676, or for TTY, contact (202) 502–8659. The eLibrary link also provides access to the texts of formal documents issued by the Commission, such as orders, notices, and rulemakings.

In addition, the Commission now offers a free service called eSubscription which allows you to keep track of all formal issuances and submittals in specific dockets. This can reduce the amount of time you spend researching proceedings by automatically providing you with notification of these filings, document summaries and direct links to the documents. Go to *www.ferc.gov/esubscribenow.htm.*

Finally, public meetings or site visits will be posted on the Commission's calendar located at *http://www.ferc.gov/EventCalendar/EventsList.aspx* along with other related information.

Kimberly D. Bose,

Secretary.

[FR Doc. E7–20716 Filed 10–19–07; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Project No. 12886–000]

BPUS Generation Development, LLC; Notice of Application Accepted for Filing and Soliciting Motions To Intervene, Protests, and Comments

October 12, 2007.

Take notice that the following hydroelectric application has been filed with the Commission and is available for public inspection:

a. *Type of Application:* Preliminary Permit.

b. *Project No.:* 12886–000.

c. *Date filed:* July 30, 2007.

d. *Applicant:* BPUS Generation Development, LLC.

e. *Name of Project:* Fulton Lock & Dam Hydroelectric Project.

f. *Location:* Tombigbee River in Itawamba County, Mississippi. It would use the U.S. Army Corps of Engineers' Fulton Lock & Dam.

g. *Filed Pursuant to:* Federal Power Act, 16 U.S.C. 791(a)–825(r).

h. *Applicant Contact:* Mr. Jeffrey M. Auser, P.E., BPUS Generation Development, LLC, 225 Greenfield Parkway, Suite 201, Liverpool, NY 13088, (315) 413–2700.

i. *FERC Contact:* Robert Bell, (202) 502–4126.

j. *Deadline for filing comments, protests, and motions to intervene:* 60 days from the issuance date of this notice.

All documents (original and eight copies) should be filed with: Secretary, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426. Comments, protests, and interventions may be filed electronically via the Internet in lieu of paper; see 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's Web site under the ''e-Filing'' link. The Commission strongly encourages electronic filings. Please include the project number (P–12886–000) on any comments or motions filed.

The Commission's Rules of Practice and Procedure require all intervenors filing documents with the Commission to serve a copy of that document on each person in the official service list for the project. Further, if an intervenor files comments or documents with the Commission relating to the merits of an issue that may affect the responsibilities of a particular resource agency, they must also serve a copy of the document on that resource agency.

k. *Description of Project:* The proposed project using the U.S. Army Corps of Engineers' Fulton Lock & Dam and operated in a run-of-river mode would consist of: (1) A new 200-foot long, 250-foot wide, 50-foot high concrete powerhouse; (2) a new intake channel and tailrace channel on the west side of the river; (3) two turbine/generator units with a combined installed capacity of 18 megawatts; (4) a new 10,500-foot above ground transmission line extending from the switchyard near the powerhouse to an interconnection point with an existing transmission north of the powerhouse; and (5) appurtenant facilities. The proposed Fulton Lock & Dam Project would have an average annual generation of 96 gigawatt-hours.

l. This filing is available for review at the Commission in the Public Reference Room or may be viewed on the Commission's Web site at *http://www.ferc.gov* using the ''eLibrary'' link. Enter the docket number excluding the last three digits in the docket number field to access the document. For assistance, call toll-free 1–866–208–3676 or e-mail *ferconlinesupport@ferc.gov.* For TTY, call (202) 502–8659. A copy is also available for inspection and reproduction at the address in item h above.

m. *Competing Preliminary Permit*—Anyone desiring to file a competing application for preliminary permit for a proposed project must submit the competing application itself, or a notice of intent to file such an application, to the Commission on or before the specified comment date for the particular application (see 18 CFR 4.36). Submission of a timely notice of intent allows an interested person to file the competing preliminary permit application no later than 30 days after the specified comment date for the particular application. A competing preliminary permit application must conform with 18 CFR 4.30 and 4.36.

n. *Competing Development Application*—Any qualified development applicant desiring to file a competing development application must submit to the Commission, on or before a specified comment date for the particular application, either a competing development application or a notice of intent to file such an application. Submission of a timely notice of intent to file a development application allows an interested person to file the competing application no later than 120 days after the specified comment date for the particular application. A competing license application must conform with 18 CFR 4.30 and 4.36.

o. *Notice of Intent*—A notice of intent must specify the exact name, business address, and telephone number of the prospective applicant, and must include an unequivocal statement of intent to submit, if such an application may be filed, either a preliminary permit application or a development application (specify which type of application). A notice of intent must be served on the applicant(s) named in this public notice.

p. *Proposed Scope of Studies Under Permit*—A preliminary permit, if issued, does not authorize construction. The term of the proposed preliminary permit would be 36 months. The work proposed under the preliminary permit would include economic analysis, preparation of preliminary engineering plans, and a study of environmental impacts. Based on the results of these studies, the Applicant would decide whether to proceed with the preparation of a development application to construct and operate the project.

q. *Comments, Protests, or Motions to Intervene*—Anyone may submit comments, a protest, or a motion to intervene in accordance with the requirements of Rules of Practice and Procedure, 18 CFR 385.210, 385.211, 385.214. In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a motion to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or motions to intervene must be received on or before the specified comment date for the particular application.

r. *Filing and Service of Responsive Documents*—Any filings must bear in all capital letters the title ''COMMENTS'', ''NOTICE OF INTENT TO FILE COMPETING APPLICATION'', ''COMPETING APPLICATION'', ''PROTEST'', and ''MOTION TO INTERVENE'', as applicable, and the Project Number of the particular application to which the filing refers. Any of the above-named documents must be filed by providing the original and the number of copies provided by the Commission's regulations to: The Secretary, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426. An additional copy must be sent to Director, Division of Hydropower Administration and Compliance, Federal Energy Regulatory Commission, at the above-mentioned address. A copy of any notice of intent, competing application or motion to intervene must also be served upon each representative of the Applicant specified in the particular application.

s. *Agency Comments*—Federal, state, and local agencies are invited to file comments on the described application. A copy of the application may be obtained by agencies directly from the Applicant. If an agency does not file comments within the time specified for filing comments, it will be presumed to have no comments. One copy of an agency's comments must also be sent to the Applicant's representatives.

Kimberly D. Bose,

Secretary.

[FR Doc. E7–20710 Filed 10–19–07; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Project No. 12887–000]

BPUS Generation Development, LLC; Notice of Application Accepted for Filing and Soliciting Motions To Intervene, Protests, and Comments

October 12, 2007.

Take notice that the following hydroelectric application has been filed with the Commission and is available for public inspection:

a. *Type of Application:* Preliminary Permit.

b. *Project No.:* 12887–000.

c. *Date filed:* July 30, 2007.

d. *Applicant:* BPUS Generation Development, LLC.

e. *Name of Project:* Point Marion Lock & Dam Hydroelectric Project.

f. *Location:* Monongahela River in Fayette County, Pennsylvania. It would use the U.S. Army Corps of Engineers' Point Marion Lock & Dam.

g. *Filed Pursuant to:* Federal Power Act, 16 U.S.C. 791(a)–825(r).

h. *Applicant Contact:* Mr. Jeffrey M. Auser, P.E., BPUS Generation Development, LLC, 225 Greenfield Parkway, Suite 201, Liverpool, NY 13088, (315) 413–2700.

i. *FERC Contact:* Robert Bell, (202) 502–4126.

j. *Deadline for filing comments, protests, and motions to intervene:* 60 days from the issuance date of this notice.

All documents (original and eight copies) should be filed with: Secretary, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426. Comments, protests, and interventions may be filed electronically via the Internet in lieu of paper; see 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's Web site under the ''e-Filing'' link. The Commission strongly encourages electronic filings. Please include the project number (P–12887–000) on any comments or motions filed.

The Commission's Rules of Practice and Procedure require all intervenors filing documents with the Commission to serve a copy of that document on each person in the official service list for the project. Further, if an intervenor files comments or documents with the Commission relating to the merits of an issue that may affect the responsibilities of a particular resource agency, they must also serve a copy of the document on that resource agency.

k. *Description of Project:* The proposed project using the U.S. Army Corps of Engineers' Point Marion Lock & Dam and operated in a run-of-river mode would consist of: (1) A new 200-foot long, 250-foot wide, 50-foot high concrete powerhouse; (2) a new intake waterway through the fixed-crest weir of the dam; (3) a new 50-foot wide tailrace; (4) two turbine/generator units with a combined installed capacity of 10.6 megawatts; (5) a new 11,500-foot above ground transmission line extending from the switchyard near the powerhouse to an interconnection point with an existing transmission southeast of the powerhouse on the east side of the river; and (6) appurtenant facilities. The proposed Point Marion Lock & Dam Project would have an average annual generation of 46.4 gigawatt-hours.

l. This filing is available for review at the Commission in the Public Reference Room or may be viewed on the Commission's Web site at *http://www.ferc.gov* using the ''eLibrary'' link. Enter the docket number excluding the last three digits in the docket number field to access the document. For assistance, call toll-free 1–866–208–3676 or e-mail *ferconlinesupport@ferc.gov.* For TTY, call (202) 502–8659. A copy is also available for inspection and reproduction at the address in item h above.

m. *Competing Preliminary Permit*—Anyone desiring to file a competing application for preliminary permit for a proposed project must submit the competing application itself, or a notice of intent to file such an application, to the Commission on or before the specified comment date for the particular application (see 18 CFR 4.36). Submission of a timely notice of intent allows an interested person to file the competing preliminary permit application no later than 30 days after the specified comment date for the particular application. A competing preliminary permit application must conform with 18 CFR 4.30 and 4.36.

n. *Competing Development Application*—Any qualified development applicant desiring to file a competing development application must submit to the Commission, on or before a specified comment date for the particular application, either a competing development application or a notice of intent to file such an application. Submission of a timely notice of intent to file a development application allows an interested person to file the competing application no later than 120 days after the specified comment date for the particular application. A competing license application must conform with 18 CFR 4.30 and 4.36.

o. *Notice of Intent*—A notice of intent must specify the exact name, business address, and telephone number of the prospective applicant, and must include an unequivocal statement of intent to submit, if such an application may be filed, either a preliminary permit application or a development application (specify which type of application). A notice of intent must be served on the applicant(s) named in this public notice.

p. *Proposed Scope of Studies Under Permit*—A preliminary permit, if issued, does not authorize construction. The term of the proposed preliminary permit would be 36 months. The work proposed under the preliminary permit would include economic analysis, preparation of preliminary engineering plans, and a study of environmental impacts. Based on the results of these studies, the Applicant would decide whether to proceed with the preparation of a development application to construct and operate the project.

q. *Comments, Protests, or Motions to Intervene*—Anyone may submit comments, a protest, or a motion to intervene in accordance with the requirements of Rules of Practice and Procedure, 18 CFR 385.210, 385.211, 385.214. In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a motion to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or motions to intervene must be received on or before the specified comment date for the particular application.

r. *Filing and Service of Responsive Documents*—Any filings must bear in all capital letters the title ''COMMENTS'', ''NOTICE OF INTENT TO FILE COMPETING APPLICATION'', ''COMPETING APPLICATION'', ''PROTEST'', and ''MOTION TO INTERVENE'', as applicable, and the Project Number of the particular application to which the filing refers. Any of the above-named documents must be filed by providing the original and the number of copies provided by the Commission's regulations to: The Secretary, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426. An additional copy must be sent to Director, Division of Hydropower Administration and Compliance, Federal Energy Regulatory Commission, at the above-mentioned address. A copy of any notice of intent, competing application or motion to intervene must also be served upon each representative of the Applicant specified in the particular application.

s. *Agency Comments*—Federal, state, and local agencies are invited to file comments on the described application. A copy of the application may be obtained by agencies directly from the Applicant. If an agency does not file comments within the time specified for filing comments, it will be presumed to have no comments. One copy of an agency's comments must also be sent to the Applicant's representatives.

Kimberly D. Bose,

Secretary.

[FR Doc. E7–20711 Filed 10–19–07; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Project No. 12888–000]

BPUS Generation Development, LLC; Notice of Application Accepted for Filing and Soliciting Motions To Intervene, Protests, and Comments

October 12, 2007.

Take notice that the following hydroelectric application has been filed with the Commission and is available for public inspection:

a. *Type of Application:* Preliminary Permit.

b. *Project No.:* 12888–000.

c. *Date filed:* July 30, 2007.

d. *Applicant:* BPUS Generation Development, LLC.

e. *Name of Project:* C. W. Bill Young Lock & Dam Hydroelectric Project.

f. *Location:* Allegheny River in Allegheny County, Pennsylvania. It would use the U.S. Army Corps of Engineers' C. W. Bill Young Lock & Dam.

g. *Filed Pursuant to:* Federal Power Act, 16 U.S.C. 791(a)–825(r).

h. *Applicant Contact:* Mr. Jeffrey M. Auser, P.E., BPUS Generation Development, LLC, 225 Greenfield Parkway, Suite 201, Liverpool, NY 13088, (315) 413–2700.

i. *FERC Contact:* Robert Bell, (202) 502–4126.

j. *Deadline for filing comments, protests, and motions to intervene:* 60 days from the issuance date of this notice.

All documents (original and eight copies) should be filed with: Secretary, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426. Comments, protests, and interventions may be filed electronically via the Internet in lieu of paper; see 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's Web site under the ''e-Filing'' link. The Commission strongly encourages electronic filings. Please include the project number (P–12888–000) on any comments or motions filed.

The Commission's Rules of Practice and Procedure require all intervenors filing documents with the Commission to serve a copy of that document on each person in the official service list for the project. Further, if an intervenor files comments or documents with the Commission relating to the merits of an issue that may affect the responsibilities of a particular resource agency, they must also serve a copy of the document on that resource agency.

k. *Description of Project:* The proposed project using the U.S. Army Corps of Engineers' C. W. Bill Young Lock & Dam and operated in a run-of-river mode would consist of: (1) A new 125-foot long, 160-foot wide, 60-foot high concrete powerhouse; (2) a new intake channel and tailrace channel on the north side of the river by removing a portion of the fixed-crest dam near the north bank; (3) three turbine/generator units with a combined installed capacity of 15 megawatts; (4) a new 6,500-foot above ground transmission line extending from the switchyard near the powerhouse to an interconnection point with an existing substation located east of the powerhouse and dam; and (5) appurtenant facilities. The proposed C. W. Bill Young Lock & Dam Project would have an average annual generation of 93 gigawatt-hours.

l. This filing is available for review at the Commission in the Public Reference Room or may be viewed on the Commission's Web site at *http://www.ferc.gov* using the ''eLibrary'' link. Enter the docket number excluding the last three digits in the docket number field to access the document. For assistance, call toll-free 1–866–208–3676 or e-mail *ferconlinesupport@ferc.gov.* For TTY, call (202) 502–8659. A copy is also available for inspection and reproduction at the address in item h above.

m. *Competing Preliminary Permit*—Anyone desiring to file a competing application for preliminary permit for a proposed project must submit the competing application itself, or a notice of intent to file such an application, to the Commission on or before the specified comment date for the particular application (see 18 CFR 4.36). Submission of a timely notice of intent allows an interested person to file the competing preliminary permit application no later than 30 days after the specified comment date for the particular application. A competing preliminary permit application must conform with 18 CFR 4.30 and 4.36.

n. *Competing Development Application*—Any qualified development applicant desiring to file a competing development application must submit to the Commission, on or before a specified comment date for the particular application, either a competing development application or a notice of intent to file such an application. Submission of a timely notice of intent to file a development application allows an interested person to file the competing application no later than 120 days after the specified comment date for the particular application. A competing license application must conform with 18 CFR 4.30 and 4.36.

o. *Notice of Intent*—A notice of intent must specify the exact name, business address, and telephone number of the prospective applicant, and must include an unequivocal statement of intent to submit, if such an application may be filed, either a preliminary permit application or a development application (specify which type of application). A notice of intent must be served on the applicant(s) named in this public notice.

p. *Proposed Scope of Studies Under Permit*—A preliminary permit, if issued, does not authorize construction. The term of the proposed preliminary permit would be 36 months. The work proposed under the preliminary permit would include economic analysis, preparation of preliminary engineering plans, and a study of environmental impacts. Based on the results of these studies, the Applicant would decide whether to proceed with the preparation of a development application to construct and operate the project.

q. *Comments, Protests, or Motions to Intervene*—Anyone may submit comments, a protest, or a motion to intervene in accordance with the requirements of Rules of Practice and Procedure, 18 CFR 385.210, 385.211, 385.214. In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a motion to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or motions to intervene must be received on or before the specified comment date for the particular application.

r. *Filing and Service of Responsive Documents*—Any filings must bear in all capital letters the title ''COMMENTS'', ''NOTICE OF INTENT TO FILE COMPETING APPLICATION'', ''COMPETING APPLICATION'',

''PROTEST'', and ''MOTION TO INTERVENE'', as applicable, and the Project Number of the particular application to which the filing refers. Any of the above-named documents must be filed by providing the original and the number of copies provided by the Commission's regulations to: The Secretary, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426. An additional copy must be sent to Director, Division of Hydropower Administration and Compliance, Federal Energy Regulatory Commission, at the above-mentioned address. A copy of any notice of intent, competing application or motion to intervene must also be served upon each representative of the Applicant specified in the particular application.

s. *Agency Comments*—Federal, state, and local agencies are invited to file comments on the described application. A copy of the application may be obtained by agencies directly from the Applicant. If an agency does not file comments within the time specified for filing comments, it will be presumed to have no comments. One copy of an agency's comments must also be sent to the Applicant's representatives.

Kimberly D. Bose,

Secretary.

[FR Doc. E7–20712 Filed 10–19–07; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Project No. 12889–000]

BPUS Generation Development, LLC; Notice of Application Accepted for Filing and Soliciting Motions To Intervene, Protests, and Comments

October 12, 2007.

Take notice that the following hydroelectric application has been filed with the Commission and is available for public inspection:

a. *Type of Application:* Preliminary Permit.

b. *Project No.:* 12889–000.

c. *Date filed:* July 30, 2007.

d. *Applicant:* BPUS Generation Development, LLC.

e. *Name of Project:* Mississippi Lock & Dam No. 18 Hydroelectric Project.

f. *Location:* Mississippi River in Des Moines County, Iowa, and Henderson County, Illinois. It would use the U.S. Army Corps of Engineers' Mississippi Lock & Dam No. 18.

g. *Filed Pursuant to:* Federal Power Act, 16 U.S.C. 791(a)–825(r).

h. *Applicant Contact:* Mr. Jeffrey M. Auser, P.E., BPUS Generation Development, LLC, 225 Greenfield Parkway, Suite 201, Liverpool, NY 13088, (315) 413–2700.

i. *FERC Contact:* Robert Bell, (202) 502–4126.

j. *Deadline for filing comments, protests, and motions to intervene:* 60 days from the issuance date of this notice.

All documents (original and eight copies) should be filed with: Secretary, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426. Comments, protests, and interventions may be filed electronically via the Internet in lieu of paper; see 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's Web site under the ''e-Filing'' link. The Commission strongly encourages electronic filings. Please include the project number (P–12889–000) on any comments or motions filed.

The Commission's Rules of Practice and Procedure require all intervenors filing documents with the Commission to serve a copy of that document on each person in the official service list for the project. Further, if an intervenor files comments or documents with the Commission relating to the merits of an issue that may affect the responsibilities of a particular resource agency, they must also serve a copy of the document on that resource agency.

k. *Description of Project:* The proposed project using the U.S. Army Corps of Engineers' Mississippi Lock & Dam No. 18 and operated in a run-of-river mode would consist of: (1) A new 200-foot long, 250-foot wide, 50-foot high concrete powerhouse; (2) a new intake channel and tailrace channel excavated on the left side of the river between the existing lock and Henderson Creek; (3) five turbine/generator units with a combined installed capacity of 23.5 megawatts; (4) a new 7,100-foot above ground transmission line extending from the switchyard near the powerhouse to an interconnection point with the 161-kilovolt Denmark-Newport transmission line on the Illinois side of the river; and (5) appurtenant facilities. The proposed Mississippi Lock & Dam No. 18 Project would have an average annual generation of 102.4 gigawatt-hours.

l. This filing is available for review at the Commission in the Public Reference Room or may be viewed on the Commission's Web site at *http://www.ferc.gov* using the ''eLibrary'' link. Enter the docket number excluding the last three digits in the docket number field to access the document. For assistance, call toll-free 1–866–208–3676 or e-mail *FERCONLINESUPPORT@FERC.GOV.* For TTY, call (202) 502–8659. A copy is also available for inspection and reproduction at the address in item h above.

m. *Competing Preliminary Permit*—Anyone desiring to file a competing application for preliminary permit for a proposed project must submit the competing application itself, or a notice of intent to file such an application, to the Commission on or before the specified comment date for the particular application (see 18 CFR 4.36). Submission of a timely notice of intent allows an interested person to file the competing preliminary permit application no later than 30 days after the specified comment date for the particular application. A competing preliminary permit application must conform with 18 CFR 4.30 and 4.36.

n. *Competing Development Application*—Any qualified development applicant desiring to file a competing development application must submit to the Commission, on or before a specified comment date for the particular application, either a competing development application or a notice of intent to file such an application. Submission of a timely notice of intent to file a development application allows an interested person to file the competing application no later than 120 days after the specified comment date for the particular application. A competing license application must conform with 18 CFR 4.30 and 4.36.

o. *Notice of Intent*—A notice of intent must specify the exact name, business address, and telephone number of the prospective applicant, and must include an unequivocal statement of intent to submit, if such an application may be filed, either a preliminary permit application or a development application (specify which type of application). A notice of intent must be served on the applicant(s) named in this public notice.

p. *Proposed Scope of Studies Under Permit*—A preliminary permit, if issued, does not authorize construction. The term of the proposed preliminary permit would be 36 months. The work proposed under the preliminary permit would include economic analysis, preparation of preliminary engineering plans, and a study of environmental impacts. Based on the results of these studies, the Applicant would decide whether to proceed with the preparation of a development application to construct and operate the project.

q. *Comments, Protests, or Motions to Intervene*—Anyone may submit

comments, a protest, or a motion to intervene in accordance with the requirements of Rules of Practice and Procedure, 18 CFR 385.210, 385.211, 385.214. In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a motion to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or motions to intervene must be received on or before the specified comment date for the particular application.

r. *Filing and Service of Responsive Documents*—Any filings must bear in all capital letters the title ''COMMENTS'', ''NOTICE OF INTENT TO FILE COMPETING APPLICATION'', ''COMPETING APPLICATION'', ''PROTEST'', and ''MOTION TO INTERVENE'', as applicable, and the Project Number of the particular application to which the filing refers. Any of the above-named documents must be filed by providing the original and the number of copies provided by the Commission's regulations to: The Secretary, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426. An additional copy must be sent to Director, Division of Hydropower Administration and Compliance, Federal Energy Regulatory Commission, at the above-mentioned address. A copy of any notice of intent, competing application or motion to intervene must also be served upon each representative of the Applicant specified in the particular application.

s. *Agency Comments*—Federal, state, and local agencies are invited to file comments on the described application. A copy of the application may be obtained by agencies directly from the Applicant. If an agency does not file comments within the time specified for filing comments, it will be presumed to have no comments. One copy of an agency's comments must also be sent to the Applicant's representatives.

Kimberly D. Bose,

Secretary.

[FR Doc. E7–20713 Filed 10–19–07; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Project No. 12890–000]

BPUS Generation Development, LLC; Notice of Application Accepted for Filing and Soliciting Motions To Intervene, Protests, and Comments

October 12, 2007.

Take notice that the following hydroelectric application has been filed with the Commission and is available for public inspection:

a. *Type of Application:* Preliminary Permit.

b. *Project No.:* 12890–000.

c. *Date filed:* July 30, 2007.

d. *Applicant:* BPUS Generation Development, LLC.

e. *Name of Project:* Allegheny Lock & Dam No. 4 Hydroelectric Project.

f. *Location:* Allegheny River in Allegheny County, Pennsylvania. It would use the U.S. Army Corps of Engineers' Allegheny Lock & Dam No. 4.

g. *Filed Pursuant to:* Federal Power Act, 16 U.S.C. 791(a)–825(r).

h. *Applicant Contact:* Mr. Jeffrey M. Auser, P.E., BPUS Generation Development, LLC, 225 Greenfield Parkway, Suite 201, Liverpool, NY 13088, (315) 413–2700.

i. *FERC Contact:* Robert Bell, (202) 502–4126.

j. *Deadline for filing comments, protests, and motions to intervene:* 60 days from the issuance date of this notice.

All documents (original and eight copies) should be filed with: Secretary, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426. Comments, protests, and interventions may be filed electronically via the Internet in lieu of paper; see 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's Web site under the ''e-Filing'' link. The Commission strongly encourages electronic filings. Please include the project number (P–12890–000) on any comments or motions filed.

The Commission's Rules of Practice and Procedure require all intervenors filing documents with the Commission to serve a copy of that document on each person in the official service list for the project. Further, if an intervenor files comments or documents with the Commission relating to the merits of an issue that may affect the responsibilities of a particular resource agency, they must also serve a copy of the document on that resource agency.

k. *Description of Project:* The proposed project using the U.S. Army Corps of Engineers' Allegheny Lock & Dam No. 4 and operated in a run-of-river mode would consist of: (1) A new 125-foot long, 160-foot wide, 60-foot high concrete powerhouse; (2) a new intake channel and tailrace channel on the southeastern side of the river; (3) three turbine/generator units with a combined installed capacity of 15 megawatts; (4) a new 500-foot above ground transmission line extending from the switchyard near the powerhouse to an interconnection point with an existing transmission line that passes near the plant on the Braeburn side of the river; and (5) appurtenant facilities. The proposed Allegheny Lock & Dam No. 4 Project would have an average annual generation of 89 gigawatt-hours.

l. This filing is available for review at the Commission in the Public Reference Room or may be viewed on the Commission's Web site at *http://www.ferc.gov* using the ''eLibrary'' link. Enter the docket number excluding the last three digits in the docket number field to access the document. For assistance, call toll-free 1–866–208–3676 or e-mail *FERCONLINESUPPORT@FERC.GOV.* For TTY, call (202) 502–8659. A copy is also available for inspection and reproduction at the address in item h above.

m. *Competing Preliminary Permit*—Anyone desiring to file a competing application for preliminary permit for a proposed project must submit the competing application itself, or a notice of intent to file such an application, to the Commission on or before the specified comment date for the particular application (see 18 CFR 4.36). Submission of a timely notice of intent allows an interested person to file the competing preliminary permit application no later than 30 days after the specified comment date for the particular application. A competing preliminary permit application must conform with 18 CFR 4.30 and 4.36.

n. *Competing Development Application:* Any qualified development applicant desiring to file a competing development application must submit to the Commission, on or before a specified comment date for the particular application, either a competing development application or a notice of intent to file such an application. Submission of a timely notice of intent to file a development application allows an interested person to file the competing application no later than 120 days after the specified comment date for the particular application. A competing license

application must conform with 18 CFR 4.30 and 4.36.

o. *Notice of Intent:* A notice of intent must specify the exact name, business address, and telephone number of the prospective applicant, and must include an unequivocal statement of intent to submit, if such an application may be filed, either a preliminary permit application or a development application (specify which type of application). A notice of intent must be served on the applicant(s) named in this public notice.

p. *Proposed Scope of Studies Under Permit:* A preliminary permit, if issued, does not authorize construction. The term of the proposed preliminary permit would be 36 months. The work proposed under the preliminary permit would include economic analysis, preparation of preliminary engineering plans, and a study of environmental impacts. Based on the results of these studies, the Applicant would decide whether to proceed with the preparation of a development application to construct and operate the project.

q. *Comments, Protests, or Motions to Intervene:* Anyone may submit comments, a protest, or a motion to intervene in accordance with the requirements of Rules of Practice and Procedure, 18 CFR 385.210, 385.211, 385.214. In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a motion to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or motions to intervene must be received on or before the specified comment date for the particular application.

r. *Filing and Service of Responsive Documents:* Any filings must bear in all capital letters the title ''COMMENTS'', ''NOTICE OF INTENT TO FILE COMPETING APPLICATION'', ''COMPETING APPLICATION'', ''PROTEST'', and ''MOTION TO INTERVENE'', as applicable, and the Project Number of the particular application to which the filing refers. Any of the above-named documents must be filed by providing the original and the number of copies provided by the Commission's regulations to: The Secretary, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426. An additional copy must be sent to Director, Division of Hydropower Administration and Compliance, Federal Energy Regulatory Commission, at the above-mentioned address. A copy of any notice of intent, competing application or motion to intervene must also be served upon each representative of the Applicant specified in the particular application.

s. *Agency Comments:* Federal, State, and local agencies are invited to file comments on the described application. A copy of the application may be obtained by agencies directly from the Applicant. If an agency does not file comments within the time specified for filing comments, it will be presumed to have no comments. One copy of an agency's comments must also be sent to the Applicant's representatives.

Kimberly D. Bose,

Secretary.

[FR Doc. E7–20714 Filed 10–19–07; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

Docket No. RM98–1–000

Records Governing Off-the Record Communications; Public Notice

October 12, 2007.

This constitutes notice, in accordance with 18 CFR 385.2201(b), of the receipt of prohibited and exempt off-the-record communications.

Order No. 607 (64 FR 51222, September 22, 1999) requires Commission decisional employees, who make or receive a prohibited or exempt off-the-record communication relevant to the merits of a contested proceeding, to deliver to the Secretary of the Commission, a copy of the communication, if written, or a summary of the substance of any oral communication.

Prohibited communications are included in a public, non-decisional file associated with, but not a part of, the decisional record of the proceeding. Unless the Commission determines that the prohibited communication and any responses thereto should become a part of the decisional record, the prohibited off-the-record communication will not be considered by the Commission in reaching its decision. Parties to a proceeding may seek the opportunity to respond to any facts or contentions made in a prohibited off-the-record communication, and may request that the Commission place the prohibited communication and responses thereto in the decisional record. The Commission will grant such a request only when it determines that fairness so requires. Any person identified below as having made a prohibited off-the-record communication shall serve the document on all parties listed on the official service list for the applicable proceeding in accordance with Rule 2010, 18 CFR 385.2010.

Exempt off-the-record communications are included in the decisional record of the proceeding, unless the communication was with a cooperating agency as described by 40 CFR 1501.6, made under 18 CFR 385.2201(e)(1)(v).

The following is a list of off-the-record communications recently received by the Secretary of the Commission. The communications listed are grouped by docket numbers in ascending order. These filings are available for review at the Commission in the Public Reference Room or may be viewed on the Commission's Web site at *http://www.ferc.gov* using the eLibrary link. Enter the docket number, excluding the last three digits, in the docket number field to access the document. For assistance, please contact FERC, Online Support at *FERCOnlineSupport@ferc.gov* or toll free at (866) 208–3676, or for TTY, contact (202) 502–8659.

Docket No.	Date received	Presenter or requester
Prohibited:		
1. CP06–459–000	9–19–07	Gary M. Yaquinto.
Exempt:		
1. CP06–61–000	9–19–07	Hon. John Garamendi.
2. CP6–459–000	9–19–07	Hon. Janet Napolitano.
3. CP07–35–000, CP–7–36–000, CP07–37–000, CP07–38–000	10–9–07	Dan Pritchard.[1]

[1] One of two letters from Mr. Pritchard (dated September 20, 2007 and September 25, 2007).

Kimberly D. Bose,

Secretary.

[FR Doc. E7–20715 Filed 10–19–07; 8:45 am]

BILLING CODE 6717–01–P

FEDERAL COMMUNICATIONS COMMISSION

Public Information Collections Approved by Office of Management and Budget

October 16, 2007.

SUMMARY: The Federal Communications Commission (FCC) has received Office of Management and Budget (OMB) approval for the following public information collections pursuant to the Paperwork Reduction Act of 1995, Public Law 104–13. An agency may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid control number.

FOR FURTHER INFORMATION CONTACT: Thomas Butler, Federal Communications Commission, (202) 418–1492 or via the Internet at *Thomas.butler@fcc.gov*.

SUPPLEMENTARY INFORMATION:

OMB Control No.: 3060–0807.

OMB Approval Date: 9/27/2007.

Expiration Date: 09/30/2010.

Title: Section 51.803 and Supplemental Procedures for Petitions Pursuant to Section 252(e)(5) of the Communications Act of 1934, as amended.

Form No.: N/A.

Estimated Annual Burden: 60 responses; 1,600 total annual hours; 20 hours per respondent.

Needs and Uses: This collection was approved as an extension to an existing collection with adjustments to the number of respondents and burden hours to reflect the most current information available. Any interested party seeking preemption of a state commission's jurisdiction based on the state commission's failure to act shall notify the Commission (47 U.S.C. 252(e)(5) and 47 CFR 51.803). In a 1997 Public Notice the Commission set out procedures for filing petitions for preemption pursuant to section 252(e)(5). All the information will be used to ensure that section 252(e)(5) petitioners have complied with their obligations under the Communications Act of 1934, as amended.

OMB Control No.: 3060–0894.

OMB Approval Date: 9/27/2007.

Expiration Date: 09/30/2010.

Title: Certification Letter Accounting for Receipt of Federal Support and Rate Comparability Review and Certification (47 CFR 54.313 and 54.316).

Form No.: N/A.

Estimated Annual Burden: 103 responses; 315 total annual hours; 5 hours per response.

Needs and uses: This collection was approved as an extension to an existing collection with adjustments to the number of respondents and burden hours to reflect the most current information available. Each State that desires non-rural carriers within the state to receive federal high-cost support is required to certify that such carriers will use the support only for the provision, maintenance, and upgrading of facilities and services for which the support is intended. Each State also is required to provide information to the Commission regarding the comparability of residential rates in rural areas served by non-rural carriers within the state to urban rates nationwide. Pursuant to the certification process, each state is required to state whether its rates in rural areas served by non-rural carriers are reasonably comparable to urban rates nationwide and explain the basis for its conclusion as well as its proposed remedies, if necessary.

Federal Communications Commission.

Marlene H. Dortch,

Secretary.

[FR Doc. E7–20733 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

Notice of Public Information Collection(s) Being Submitted to the Office of Management and Budget, Comment Requested

October 10, 2007.

SUMMARY: The Federal Communications Commission, as part of its continuing effort to reduce paperwork burden invites the general public and other Federal agencies to take this opportunity to comment on the following information collection(s), as required by the Paperwork Reduction Act (PRA) of 1995, Public Law 104–13. An agency may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act (PRA) that does not display a valid control number. Comments are requested concerning (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimate; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

DATES: Written Paperwork Reduction Act (PRA) comments should be submitted on or before December 21, 2007. If you anticipate that you will be submitting PRA comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the FCC contact listed below as soon as possible.

ADDRESSES: Direct all PRA comments to Nicholas A. Fraser, Office of Management and Budget, (202) 395–5887, or via fax at 202–395–5167 or via internet at *Nicholas_A._Fraser@omb.eop.gov* and to *Judith-B.Herman@fcc.gov,* Federal Communications Commission, Room 1–B441, 445 12th Street, SW., DC 20554 or an e-mail to *PRA@fcc.gov*. If you would like to obtain or view a copy of this information collection after the 60 day comment period, you may do so by visiting the FCC PRA Web page at: *http://www.fcc.gov/omd/pra*.

FOR FURTHER INFORMATION CONTACT: For additional information or copies of the information collection(s), contact Judith B. Herman at 202–418–0214 or via the Internet at *Judith-B.Herman@fcc.gov*.

SUPPLEMENTARY INFORMATION:

OMB Control Number: 3060–0262.

Title: Section 90.179, Shared Use of Radio Stations.

Form No.: N/A.

Type of Review: Extension of a currently approved collection.

Respondents: Business or other for-profit, not-for-profit, and state, local or tribal government.

Number of Respondents: 42,000 respondents; 42,000 responses.

Estimated Time Per Response: .25–.75 hours.

Frequency of Response: On occasion reporting requirement, recordkeeping requirement.

Obligation To Respond: Required to obtain or retain benefits.

Total Annual Burden: 42,000 hours.

Total Annual Cost: N/A.

Privacy Act Impact Assessment: N/A.

Nature and Extent of Confidentiality: There is no need for confidentiality.

Needs and Uses: The Commission will submit this extension to the OMB after this 60 day comment period to obtain the full three-year clearance from them. There is no change in the reporting or recordkeeping

requirements. However, the total annual burden has been modified. The Commission was directed by the United States Congress, in the Balanced Budget Act of 1997, to dedicate 2.4 MHz of electromagnetic spectrum in the 746–806 MHz band for public safety services. Section 90.179 requires that Part 90 licensees that share use of their private land mobile radio facility on a non-profit, cost-sharing basis, keep a written sharing agreement as part of the station records. Regardless of the method of sharing, an up-to-date list of persons who are sharing the station and the basis of their eligibility under Part 90 must be maintained. The recordkeeping requirement is necessary to identify users of the system should interference problems develop. This information is used by the Commission to investigate interference complaints and resolve interference and operational complaints that may arise among the users.

Federal Communications Commission.

Marlene H. Dortch,

Secretary.

[FR Doc. E7–20734 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

Public Information Collection Requirement Submitted to OMB for Review and Approval, Comments Requested

October 12, 2007.

SUMMARY: The Federal Communications Commission, as part of its continuing effort to reduce paperwork burden, invites the general public and other Federal agencies to take this opportunity to comment on the following information collection, as required by the Paperwork Reduction Act of 1995, Public Law 104–13. An agency may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act (PRA) that does not display a valid control number. Comments are requested concerning (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimate; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

DATES: Written Paperwork Reduction Act (PRA) comments should be submitted on or before November 21, 2007. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the contacts listed below as soon as possible.

ADDRESSES: Direct all PRA comments to Nicholas A. Fraser, Office of Management and Budget, via Internet at *Nicholas_A._Fraser@omb.eop.gov* or via fax at (202) 395–5167 and to Cathy Williams, Federal Communications Commission, Room 1–C823, 445 12th Street, SW., Washington, DC or via Internet at *Cathy.Williams@fcc.gov* or *PRA@fcc.gov*.

To view a copy of this information collection request (ICR) submitted to OMB: (1) Go to the Web page *http://www.reginfo.gov/public/do/PRAMain*, (2) look for the section of the Web page called ''Currently Under Review,'' (3) click on the downward-pointing arrow in the ''Select Agency'' box below the ''Currently Under Review'' heading, (4) select ''Federal Communications Commission'' from the list of agencies presented in the ''Select Agency'' box, (5) click the ''Submit'' button to the right of the ''Select Agency'' box, (6) when the list of FCC ICRs currently under review appears, look for the title of this ICR (or its OMB control number, if there is one) and then click on the ICR Reference Number to view detailed information about this ICR.''

FOR FURTHER INFORMATION CONTACT: For additional information or copies of the information collection(s), contact Cathy Williams at (202) 418–2918.

SUPPLEMENTARY INFORMATION:

OMB Control Number: 3060–0519.

Title: Rules and Regulations Implementing the Telephone Consumer Protection Act (TCPA) of 1991, CG Docket No. 02–278.

Form Number: Not applicable.

Type of Review: Extension of a currently approved collection.

Respondents: Business or other for-profit entities; Individuals or households; Not-for-profit institutions.

Number of Respondents: 49,397.

Estimated Time Per Response: .004 hours (15 seconds)—2 hours (average per response).

Frequency of Response: Recordkeeping requirement; On occasion reporting requirement; Third party disclosure requirement.

Obligation to Respond: Required to obtain or retain benefits.

Total Annual Burden: 708,806 hours.

Total Annual Costs: $4,360,500.

Nature and Extent of Confidentiality: Confidentiality is an issue to the extent that individuals and households provide personally identifiable information, which is covered under the FCC's system of records notice (SORN), FCC/CGB–1, ''Informal Complaints and Inquiries.''

Privacy Impact Assessment: Yes. The Privacy Impact Assessment was completed on June 28, 2007. It may be reviewed at: *http://www.fcc.gov/omd/privacyact/Privacy_Impact_Assessment.html.*

Needs and Uses: The reporting requirements included under this OMB Control Number 3060–0519 enable the Commission to gather information regarding violations of the Do-Not-Call Implementation Act (Do-Not-Call Act). If the information collection was not conducted, the Commission would be unable to track and enforce violations the Do-Not-Call Act. The Do-Not-Call rules provide consumers with several options for avoiding most unwanted telephone solicitations.

This national do-not-call registry supplements the current company-specific do-not-call rules for those consumers who wish to continue requesting that particular companies not call them. Any company, which is asked by a consumer, including an existing customer, not to call again must honor that request for five (5) years. The Commission retains the current calling time restrictions of 8 a.m. until 9 p.m. However, a provision of the Commission's rules allows consumers to give specific companies permission to call them through an express written agreement. Nonprofit organizations, companies with whom consumers have an established business relationship, and calls to persons with whom the telemarketer has a personal relationship are exempt from the ''do-not-call'' requirements.

On September 21, 2004, the Commission released the *Safe Harbor Order* establishing a limited safe harbor in which persons will not be liable for placing autodialed and prerecorded message calls to numbers ported from a wireline service within the previous 15 days. The Commission also amended its existing national do-not-call registry safe harbor to require telemarketers to scrub their lists against the do-not-call database every 31 days.

Federal Communications Commission.

Marlene H. Dortch,

Secretary.

[FR Doc. E7–20750 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

Notice of Public Information Collection(s) Being Submitted for Review to the Office of Management and Budget

October 11, 2007.

SUMMARY: The Federal Communications Commission, as part of its continuing effort to reduce paperwork burden invites the general public and other Federal agencies to take this opportunity to comment on the following information collection(s), as required by the Paperwork Reduction Act (PRA) of 1995, Public Law 104–13. An agency may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act (PRA) that does not display a valid control number. Comments are requested concerning (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimate; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

DATES: Written Paperwork Reduction Act (PRA) comments should be submitted on or before November 21, 2007. If you anticipate that you will be submitting PRA comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the FCC contact listed below as soon as possible.

ADDRESSES: Direct all PRA comments to Nicholas A. Fraser, Office of Management and Budget, (202) 395–5887, or via fax at 202–395–5167 or via Internet at *Nicholas_A._Fraser@omb.eop.gov* and to *Judith-B. Herman@fcc.gov,* Federal Communications Commission, Room 1–B441, 445 12th Street, SW., DC 20554 or an e-mail to *PRA@fcc.gov*. If you would like to obtain or view a copy of this information collection, you may do so by visiting the FCC PRA Web page at: *http://www.fcc.gov/omd/pra*.

FOR FURTHER INFORMATION CONTACT: For additional information or copies of the information collection(s), contact Judith B. Herman at 202–418–0214 or via the Internet at *Judith-B.Herman@fcc.gov*.

SUPPLEMENTARY INFORMATION:

OMB Control Number: 3060–0975.

Title: Sections 68.3 and 1.4000, Promotion of Competitive Networks in Local Telecommunications Markets Multiple Tenant Environments (MTEs).

Form No.: N/A.

Type of Review: Extension of a currently approved collection.

Respondents: Business or other for-profit, not-for profit institutions, Federal Government, and state, local or tribal government.

Number of Respondents: 5,983 respondents; 5,983 responses.

Estimated Time Per Response: .50–10 hours.

Frequency of Response: On occasion reporting requirement and third party disclosure requirement.

Obligation to Respond: Required to obtain or retain benefits.

Total Annual Burden: 215,882 hours.

Total Annual Cost: N/A.

Privacy Act Impact Assessment: N/A.

Nature and Extent of Confidentiality: There is no need for confidentiality.

Needs and Uses: The Commission will submit this information collection to the OMB as an extension (no change in the reporting requirement or third party disclosure requirement) during this comment period to obtain the full three-year clearance from them. There is a change in the number of respondents/responses and the burden hours.

In October 2000, the Federal Communications Commission adopted and released several rulemakings to foster competition in local communications markets by implementing measures to ensure that competing telecommunications providers are able to provide services to customers in multiple tenet environments (MTEs).

Specifically, the rulemakings require the following: (1) Prohibited carriers from entering into contracts that restrict or effectively restrict a property owner's ability to permit entry by competing carriers; (2) established procedures to facilitate moving the demarcation point to the minimum point of entry (MPOE) at the building owner's request, and requires incumbent local exchange carriers (LECs) to timely disclose the location of existing demarcation points where they are not located at the MPOE; (3) determined that, under section 224 of the Communications Act, utilities, including LECs, must afford telecommunications carriers and cable service providers reasonable and nondiscriminatory access to conduits and rights-of-way located in customer buildings and campuses, to the extent that such conduits and rights-of-way are owned or controlled by the utility; and (4) extended to antennas that receive and transmit telecommunications and other fixed wireless signals the existing prohibition of restrictions that impair the installation, maintenance or use of certain video antennas on property within the exclusive use or control of the antenna user, where the user has a direct or indirect ownership or leasehold interest in the property.

This information will facilitate efficient interaction between premises owners and LECs regarding the placement of the demarcation point, which marks the end of wiring under control of the LEC and the beginning of wiring under control of the premises owner or subscriber.

The demarcation point is a critical point of interconnection where competitive LECs can gain access to the inside wiring of the building to provide service to customers in the building. This collection will also help ensure that customer-end antennas used for telecommunications service comply with the Commission's limits on radio frequency exposure, and it will provide the Commission with information on the state of the market. In short, this information will be used to foster competition in local telecommunications markets by ensuring that competing telecommunications providers are able to provide services to customers in multiple tenant environments (MTEs).

Federal Communications Commission.

Marlene H. Dortch,

Secretary.

[FR Doc. E7–20755 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

[Report No. 2837]

Petitions for Reconsideration of Action in Rulemaking Proceeding

October 12, 2007.

Petitions for Reconsideration have been filed in the Commission's Rulemaking proceeding listed in this Public Notice and published pursuant to 47 CFR 1.429(e). The full text of these documents are available for viewing and copying in Room CY–B402, 445 12th Street, SW., Washington, DC or may be purchased from the Commission's copy contractor, Best Copy and Printing, Inc. (BCPI) (1–800–378–3160). Oppositions to these petitions must be filed by November 6, 2007. See section 1.4(b)(1)

of the Commission's rules (47 CFR 1.4(b)(1). Replies to oppositions must be filed within 10 days after the time for filing oppositions have expired.

Subject: In the Matter of Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers (WT Docket No. 05–265).

Number of Petitions Filed: 5.

Marlene H. Dortch,

Secretary.

[FR Doc. E7–20737 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

[Report No. 2836]

Petitions for Reconsideration of Action in Rulemaking Proceeding

October 15, 2007.

Petitions for Reconsideration have been filed in the Commission's Rulemaking proceeding listed in this Public Notice and published pursuant to 47 CFR 1.429(e). The full text of these documents are available for viewing and copying in Room CY–B402, 445 12th Street, SW., Washington, DC or may be purchased from the Commission's copy contractor, Best Copy and Printing, Inc. (BCPI) (1–800–378–3160). Oppositions to these petitions must be filed by November 6, 2007. See Section 1.4(b)(1) of the Commission's rules (47 CFR 1.4(b)(1). Replies to oppositions must be filed within 10 days after the time for filing oppositions have expired.

Subject: In the Matter of Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service (MB Docket No. 87–268).

Number of Petitions Filed: 14.

Marlene H. Dortch,

Secretary.

[FR Doc. E7–20760 Filed 10–19–07; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL ELECTION COMMISSION

Sunshine Act Notices

AGENCY: Federal Election Commission.

DATE AND TIME: Thursday, October 25, 2007, at 10 a.m.

PLACE: 999 E Street, NW., Washington, DC (Ninth Floor).

STATUS: This meeting will be open to the public.

THE FOLLOWING ITEM HAS BEEN ADDED TO THE AGENDA: Policy Statement Making Permanent a Program for Probable Cause Hearings.

PERSON TO CONTACT FOR INFORMATION: Mr. Robert Biersack, Press Officer, Telephone: (202) 694–1220.

Mary W. Dove,

Secretary of the Commission.

[FR Doc. 07–5231 Filed 10–18–07; 3:18 pm]

BILLING CODE 6715–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

Notice of Establishment

Pursuant to the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), the Secretary, Department of Health and Human Services (HHS), announces the establishment of the Board of Scientific Counselors, Coordinating Center for Health Promotion (CCHP).

This board is established to ensure that the coordinating center has access to external viewpoints, the capacity to conduct peer review of scientific programs, and perform second level peer-review of research applications.

The Board of Scientific Counselors, CCHP will advise the Secretary, HHS; and the Director, Centers for Disease Control and Prevention; concerning strategies and goals for the programs and research within the national centers; shall conduct peer-review of scientific programs; and monitor the overall strategic direction and focus of the national centers. The board, after conducting its periodic reviews, shall submit a written description of the results of the review and its recommendations to the Director, CDC. The board shall perform second-level peer review of applications for grants-in-aid for research and research training activities, cooperative agreements, and research contract proposals relating to the broad areas within the national centers.

For information, contact Dr. Karen Steinberg, Executive Secretary, Centers for Disease Control and Prevention, of the Department of Health and Human Services, 4770 Buford Highway, NE., Mailstop K88, Atlanta, Georgia 30341–3713, telephone 770/488–6067 or fax 770/488–6448.

The Director, Management Analysis and Services Office, has been delegated the authority to sign **Federal Register** notices pertaining to announcements of meetings and other committee management activities, for both the CDC and the Agency for Toxic Substances and Disease Registry.

Dated: October 15, 2007.

Elaine L. Baker,

Acting Director, Management Analysis and Services Office, Centers for Disease Control and Prevention (CDC).

[FR Doc. E7–20718 Filed 10–19–07; 8:45 am]

BILLING CODE 4163–18–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention (CDC)

Notice of Establishment

Pursuant to the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), the Secretary, Department of Health and Human Services (HHS), announces the establishment of the Board of Scientific Counselors, Coordinating Office for Terrorism Preparedness and Emergency Response (COTPER).

This board is established to ensure that the coordinating office has access to external viewpoints, the capacity to conduct peer review of scientific programs, and perform second level peer-review of research applications.

The Board of Scientific Counselors, COTPER will advise the Secretary, HHS; and the Director, Centers for Disease Control and Prevention; concerning strategies and goals for the programs and research within the national centers; shall conduct peer-review of scientific programs; and monitor the overall strategic direction and focus of the national centers. The board, after conducting its periodic reviews, shall submit a written description of the results of the review and its recommendations to the Director, CDC. The board shall also perform second-level peer review of applications for grants-in-aid for research and research training activities, cooperative agreements, and research contract proposals relating to the broad areas within the national centers.

For information, contact Dr. Dan Sosin, Executive Secretary, Centers for Disease Control and Prevention, of the Department of Health and Human Services, 1600 Clifton Road, N.E., Mailstop D44, Atlanta, Georgia 30333, telephone 404/639–7855 or fax 404/639–7977.

The Director, Management Analysis and Services Office, has been delegated the authority to sign **Federal Register** notices pertaining to announcements of meetings and other committee management activities, for both the CDC and the Agency for Toxic Substances and Disease Registry.

Dated: October 15, 2007.

Elaine L. Baker,

Acting Director, Management Analysis and Services Office, Centers for Disease Control and Prevention (CDC).

[FR Doc. E7–20717 Filed 10–19–07; 8:45 am]

BILLING CODE 4163–18–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention (CDC)

Notice of Establishment

Pursuant to the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), the Secretary, Department of Health and Human Services (HHS), announces the establishment of the Board of Scientific Counselors, National Center for Health Marketing (NCHM).

This board is established to ensure that the national center has access to external viewpoints, the capacity to conduct peer review of scientific programs, and perform second level peer-review of research applications.

The Board of Scientific Counselors, NCHM will advise the Secretary, HHS; and the Director, Centers for Disease Control and Prevention; concerning strategies and goals for the programs and research within the national centers; shall conduct peer-review of scientific programs; and monitor the overall strategic direction and focus of the national centers. The board, after conducting its periodic reviews, shall submit a written description of the results of the review and its recommendations to the Director, CDC. The board shall also perform second-level peer review of applications for grants-in-aid for research and research training activities, cooperative agreements, and research contract proposals relating to the broad areas within the national centers.

For information, contact Dr. Kathleen McDuffie, Executive Secretary, Centers for Disease Control and Prevention, of the Department of Health and Human Services, 1600 Clifton Road, N.E., Mailstop E21, Atlanta, Georgia 30333, telephone 404/498–1114 or fax 404/498–1112.

The Director, Management Analysis and Services Office, has been delegated the authority to sign **Federal Register** notices pertaining to announcements of meetings and other committee management activities, for both the CDC and the Agency for Toxic Substances and Disease Registry.

Dated: October 15, 2007.

Elaine L. Baker,

Acting Director, Management Analysis and Services Office, Centers for Disease Control and Prevention (CDC).

[FR Doc. E7–20692 Filed 10–19–07; 8:45 am]

BILLING CODE 4163–18–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

Notice of Establishment

Pursuant to the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), the Secretary, Department of Health and Human Services (HHS), announces the establishment of the Board of Scientific Counselors, National Center for Injury Prevention and Control (NCIPC).

This board is established to ensure that the national center has access to external viewpoints, the capacity to conduct peer review of scientific programs, and perform second level peer-review of research applications.

The Board of Scientific Counselors, NCIPC will advise the Secretary, HHS; and the Director, Centers for Disease Control and Prevention (CDC); concerning strategies and goals for the programs and research within the national centers; shall conduct peer-review of scientific programs; and monitor the overall strategic direction and focus of the national centers. The board, after conducting its periodic reviews, shall submit a written description of the results of the review and its recommendations to the Director, CDC. The board shall also perform second-level peer review of applications for grants-in-aid for research and research training activities, cooperative agreements, and research contract proposals relating to the broad areas within the national centers.

For information, contact Dr. Gwendolyn Cattledge, Executive Secretary, Centers for Disease Control and Prevention, of the Department of Health and Human Services, 4770 Buford Highway, NE., Mailstop K02, Atlanta, Georgia 30341, telephone 770/488–4655 or fax 770/488–4422.

The Director, Management Analysis and Services Office, has been delegated the authority to sign **Federal Register** notices pertaining to announcements of meetings and other committee management activities, for both the CDC and the Agency for Toxic Substances and Disease Registry.

Dated: October 15, 2007.

Elaine L. Baker,

Acting Director, Management Analysis and Services Office, Centers for Disease Control and Prevention (CDC).

[FR Doc. E7–20701 Filed 10–19–07; 8:45 am]

BILLING CODE 4163–18–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

Ethics Subcommittee, Advisory Committee to the Director (ACD), Centers for Disease Control and Prevention (CDC)

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92–463), CDC announces the following meeting for the aforementioned subcommittee:

Times and Dates:

1 p.m.–5:30 p.m., November 15, 2007.

8:30 a.m.–3:30 p.m., November 16, 2007.

Place: CDC, Century Center Campus, 1825 Century Boulevard, Conference Room 1 A/B, Atlanta, Georgia 30345.

Status: Open to the public, limited only by the space available. The meeting room accommodates approximately 70 people. To accommodate public participation in the meeting, a conference telephone line will be available. The public is welcome to participate during the public comment periods by calling (866) 919–3560 and entering code 4168828. The public comment periods are tentatively scheduled from 4:45 p.m.–5 p.m. on November 15, 2007 and from 3 p.m.–3:15 p.m. on November 16, 2007.

Purpose: The Ethics Subcommittee will provide counsel to the ACD, CDC regarding a broad range of public health ethics questions and issues arising from programs, scientists, and practitioners.

Matters to be Discussed: Agenda items will include: Ethical Guidance for Public Health Emergency Preparedness and Response; Ethical Guidance for Non-Research Data Collections; and Updates on Activities relating to CDC Partnerships, Genomics Best practices, and Pandemic Influenza Preparedness. Agenda items are subject to change as priorities dictate.

For security reasons, members of the public interested in attending the meeting should contact the person below. The deadline for notification of attendance is November 9, 2007.

Contact Person for More Information: Drue Barrett, Ph.D., Designated Federal Official, Ethics Subcommittee, CDC, 1600 Clifton Road, NE., M/S D–50, Atlanta, Georgia 30333. Telephone (404) 639–4690. E-mail: *dbarrett@cdc.gov*.

The Director, Management Analysis and Services Office, has been delegated the authority to sign **Federal Register** notices pertaining to announcements of meetings and other committee management activities, for

both CDC and the Agency for Toxic Substances and Disease Registry.

Dated: October 15, 2007.

Elaine L. Baker,

Acting Director, Management Analysis and Services Office, Centers for Disease Control and Prevention (CDC).

[FR Doc. E7–20696 Filed 10–19–07; 8:45 am]

BILLING CODE 4163–18–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

Disease, Disability, and Injury Prevention and Control Special Emphasis Panel: Centers for Disease Control and Prevention (CDC) Grants for Public Health Research Dissertation, Program Announcement (PA) PAR 07–231, Panel A

Correction: This notice was published in the **Federal Register** on October 10, 2007, Volume 72, Number 195, page 57582. The time and date should read as follows:

Time and Date: 8:30 a.m.–5 p.m., November 15, 2007 (Closed).

Contact Person for More Information: Juliana Cyril, PhD, MPH, Scientific Review Administrator, Office of the Chief Science Officer, CDC, 1600 Clifton Road, NE., Mailstop D 72, Atlanta, GA 30333. Telephone (404) 639–4896.

The Director, Management Analysis and Services Office, has been delegated the authority to sign **Federal Register** notices pertaining to announcements of meetings and other committee management activities, for both CDC and the Agency for Toxic Substances and Disease Registry.

Dated: October 15, 2007.

Elaine L. Baker,

Acting Director, Management Analysis and Services Office, Centers for Disease Control and Prevention.

[FR Doc. E7–20688 Filed 10–19–07; 8:45 am]

BILLING CODE 4163–18–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

Healthcare Infection Control Practices Advisory Committee (HICPAC)

Correction: This notice was published in the **Federal Register** on October 11, 2007, Volume 72, Number 196, page 57947–57948. The Place should read as follows:

Place: Department of Health and Human Services Building, 395 E Street, SW., Suite 9100, Washington, DC 20201.

Contact Person for More Information: Angela B. Scott, Committee Management Specialist, HICPAC, Division of Healthcare Quality Promotion, NCPDCID, CDC, 1600 Clifton Road, N.E., Mailstop A 45, Atlanta, GA 30333. Telephone (404) 639–1526.

The Director, Management Analysis and Services Office, has been delegated the authority to sign **Federal Register** notices pertaining to announcements of meetings and other committee management activities, for both CDC and the Agency for Toxic Substances and Disease Registry.

Dated: October 15, 2007.

Elaine L. Baker,

Acting Director, Management Analysis and Services Office, Centers for Disease Control and Prevention.

[FR Doc. E7–20699 Filed 10–19–07; 8:45 am]

BILLING CODE 4163–18–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Administration for Children and Families

Proposed Information Collection Activity; Comment Request; Proposed Project

Title: Compassion Capital Fund Impact Evaluation Process Study.

OMB No.: New Collection.

Description: The information collection activity proposed under this notice will obtain information about intermediary grantee agencies providing capacity building assistance to faith-based and community organizations under the Compassion Capital Fund (CCF) Demonstration program. The information gathered under this data collection activity will be used to describe the approach and methods used by intermediaries to provide the services that are being evaluated in the CCF impact evaluation. Information collection will be through informal discussions and observations on-site at the organizations, using uniform protocols.

Respondents: Directors and staff providing technical assistance and related services to faith-based and community organizations and directors and staff in faith-based and community organizations that have received capacity building assistance.

ANNUAL BURDEN ESTIMATES

Instrument	Number of respondents	Number of responses per respondent	Average burden hours per response	Total burden hours
Intermediary Protocol for Executive Director	10	1	3	30
Intermediary Protocol for Key Staff	30	1	1	30
Faith-based or Community Organization Protocol for Executive Director	30	1	2	60
Faith-based or Community Organization Protocol for Key Staff	60	1	1	60

Estimated Total Annual Burden Hours: 180.

In compliance with the requirements of Section 3506(c)(1)(A) of the Paperwork Reduction Act of 1995, the Administration for Children and Families is soliciting public comment on the specific aspects of the information collection described above. Copies of the proposed collection of information can be obtained and comments may be forwarded by writing to the Administration for Children and Families, Office of Administration, Office of Information Services, 370 L'Enfant Promenade, SW., Washington, DC 20447. Attn: ACF Reports Clearance Officer. E-mail address: *infocollection@acf.hhs.gov*. All requests should be identified by the title of the information collection.

The Department specifically requests comments on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the

proposed collection of information; (c) the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents. Consideration will be given to comments and suggestions submitted within 60 days of this publication.

Dated: October 10, 2007.

Brendan C. Kelly,

Reports Clearance Officer.

[FR Doc. 07–5176 Filed 10–19–07; 8:45 am]

BILLING CODE 4184–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

[Docket No. 2006N–0133]

Agency Information Collection Activities; Announcement of Office of Management and Budget Approval; Experimental Evaluation of Variations in Content and Format of the Brief Summary in Direct-to-Consumer Print Advertisements for Prescription Drugs

AGENCY: Food and Drug Administration, HHS.

ACTION: Notice.

SUMMARY: The Food and Drug Administration (FDA) is announcing that a collection of information entitled ''Experimental Evaluation of Variations in Content and Format of the Brief Summary in Direct-to-Consumer (DTC) Print Advertisements for Prescription Drugs'' has been approved by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995.

FOR FURTHER INFORMATION CONTACT: Karen L. Nelson, Office of the Chief Information Officer (HFA–250), Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20857, 301–827–4816.

SUPPLEMENTARY INFORMATION: In the **Federal Register** of March 14, 2007 (72 FR 11889), the agency announced that the proposed information collection had been submitted to OMB for review and clearance under 44 U.S.C. 3507. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. OMB has now approved the information collection and has assigned OMB control number 0910–0611. The approval expires on October 31, 2010. A copy of the supporting statement for this information collection is available on the Internet at *http://www.fda.gov/ohrms/dockets*.

Dated: October 12, 2007.

Jeffrey Shuren,

Assistant Commissioner for Policy.

[FR Doc. E7–20756 Filed 10–19–07; 8:45 am]

BILLING CODE 4160–01–S

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

[Docket No. 2007N–0114]

Electronic Distribution of Prescribing Information for Prescription Drug Products; Reopening of Comment Period

AGENCY: Food and Drug Administration, HHS.

ACTION: Notice; reopening of comment period.

SUMMARY: The Food and Drug Administration (FDA) is reopening to December 6, 2007 the comment period for the notice that published in the **Federal Register** of April 2, 2007 (72 FR 15701); this notice was related to the public hearing of April 27, 2007, concerning the electronic distribution of FDA-approved prescribing information currently contained in the package insert (PI) for prescription drug and biological products. FDA is reopening the comment period for the sole purpose of inviting interested persons to submit comments on the concept of electronic distribution of FDA-approved prescribing information currently contained in the PI for prescription animal drug products.

DATES: Submit written or electronic comments by December 6, 2007.

ADDRESSES: Submit written comments to the Division of Dockets Management (HFA–305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852. Submit electronic comments to either *http://www.fda.gov/dockets/ecomments* or *http://www.regulations.gov*.

FOR FURTHER INFORMATION CONTACT: Erik Mettler, Office of Policy (HF–11), Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20857, 301–827–3360, *Erik.Mettler@fda.hhs.gov*.

SUPPLEMENTARY INFORMATION:

I. Background

In the **Federal Register** notice of April 2, 2007 (72 FR 15701), FDA published a notice of public hearing concerning the concept of the electronic distribution of PIs for human prescription drugs and biological products and solicited relevant information and comments on this concept. The purpose was to garner views and information on the feasibility of establishing an efficient process for industry to electronically distribute prescribing information to dispensers. The PIs with prescribing information accompany prescription human drugs to meet the requirement that ''labeling on or within the package from which the drug is to be dispensed bears adequate information for its use * * *'' (21 CFR 201.100(c)(1)). For additional information, see the April 2, 2007, notice (72 FR 15701).

Currently, the PI contains the prescribing information for the safe and effective use of the product in the form of a paper leaflet. Although the information in the PI is a valuable resource, it is often not readily accessible when a healthcare provider who has not physically received the drug makes a treatment decision or discusses treatments with a patient. Additionally, the PI may not contain the most current information, because the PI accompanying the drug's distribution may have been printed and distributed prior to more recent labeling changes. Accordingly, with technological advances in the electronic transmission of information, we are considering how prescribing information could be more effectively disseminated.

FDA is reopening the comment period for the sole purpose of inviting interested persons to submit comments addressing a number of questions regarding the current use of package inserts for animal drug products and those logistical issues associated with electronic distribution of such prescribing information for animal drug products. The previous request for comments was limited to human drugs and biologics. As with prescription human drugs, the PIs with prescribing information accompany prescription animal drugs to meet the requirement that ''labeling on or within the package from which the drug is to be dispensed bears adequate information for its use * * *'' (21 CFR 201.105(c)(1)). FDA approves the prescribing information as part of both human and animal drug labeling in the drug application. The request for comment is to gain a better understanding of how PIs for animal drugs are currently used by healthcare entities as we consider new approaches for the dissemination of labeling information.

II. Issues for Discussion

FDA is specifically interested in receiving comments on the following questions and any other pertinent

information related to the electronic distribution of the prescribing information for animals.

A. General

(1) Currently, who uses and benefits from the prescribing information?

(2) How can electronic distribution and access of the prescribing information be accomplished?

(3) Would electronic distribution and access of the prescribing information improve the public health?

(4) Would electronic distribution and access of prescribing information improve prescribing habits? If so, how?

(5) How might we ensure that changes in the distribution and access of the prescribing information will not negatively affect the current users?

(6) Would an increase in electronic access to prescribing information affect prescribers, pharmacists, clients and patients? If so, how?

(7) Are there any issues particular to the prescribing information for animal drugs that are dissimilar or distinct from those associated with human drugs and that might affect the feasibility of electronic distribution of labeling?

B. Logistics

(1) Generally and without focusing on vendor-specific methods, how can electronic distribution of prescribing information be accomplished?

(2) What are the costs associated with the successful implementation of electronic distribution and access to prescribing information, including startup and maintenance expenses? Please breakdown costs per healthcare sector.

(3) Is the technology and infrastructure currently available to accomplish electronic distribution and access? If so, what is available? If not, what is needed?

(4) What are other potential barriers to accomplishing the electronic prescribing information?

(5) How can we ensure that electronic prescribing information is accessible to those who need the information?

(6) How do we meet the needs of those who do not have electronic capability?

(7) In case of emergency or when a computer system is down, what might be the backup?

(8) How should electronically disseminated prescribing information be regularly updated and remain current?

(9) What are the roles for the involved parties (manufacturers, third-parties, health professionals, FDA, and consumers)?

(10) Should all products have electronic prescribing information or are there some products or classes of products that should continue to have paper prescribing information accompany the product?

(11) If electronic prescribing information were to be used instead of paper inserts, then how should electronic prescribing information be implemented? Should electronic prescribing information be phased in? If so, over what time period? Which products should use electronic prescribing information first?

III. How to Submit Comments

Interested persons may submit to the Division of Dockets Management (see **ADDRESSES**) written or electronic comments regarding this document. Submit a single copy of electronic comments to *http://www.fda.gov/dockets/ecomments* or two paper copies of any mailed comments, except that individuals may submit one paper copy. Comments are to be identified with the docket number at the heading of this document. Received comments may be seen in the office above between 9 a.m. and 4 p .m., Monday through Friday.

Dated: October 16, 2007.

Jeffrey Shuren,

Assistant Commissioner for Policy.

[FR Doc. E7–20759 Filed 10–19–07; 8:45 am]

BILLING CODE 4160–01–S

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Resources and Services Administration

HRSA's Bureau of Primary Health Care (BPHC) Awards Unsolicited Proposal for Cooperative Agreement to the National Network for Oral Health Access

AGENCY: Health Resources and Services Administration (HRSA), HHS.

ACTION: HRSA's Bureau of Primary Health Care (BPHC) announces the award of an unsolicited proposal from the National Network for Oral Health Access (NNOHA) to establish a cooperative agreement with HRSA providing services and resources to support the Health Center Program's oral health providers serving the oral health needs of underserved populations.

Recipient: National Network for Oral Health Access, Ft. Lupton, Colorado.

Purpose of the award: Cooperative Agreement with HRSA to provide services and resources to support the Health Center Program's oral health providers serving the oral health needs of underserved populations.

Amount of award: $200,000.

Project period: 1 year; September 25, 2007, to September 24, 2008.

SUMMARY: HRSA's BPHC has performed a formal review of an unsolicited proposal from NNOHA to establish a cooperative agreement with HRSA to provide services and resources to support the Health Center Program's oral health providers serving the oral health needs of underserved populations. BPHC has reviewed the proposal and has determined that it has merit. This request is of strategic importance to the Department of Health and Human Services (HHS) and is time critical. Funding for the proposed activities will promote access to oral health services as an integral component of primary health care, improve the quality of those services provided, and sustain the forward motion of departmental priorities in this area.

The Cooperative Agreement with NNOHA will have a project period of 1 year with funding at $200,000. The funds will support selected activities described in the application to develop a national infrastructure to support improved access to oral health care, and improved quality and workforce development for the growing number of health center oral health programs.

The key anticipated outcomes of the proposed cooperative agreement are as follows:

- The development of oral health clinical quality infrastructure to support HRSA in achieving its goal of improved quality of care;
- The development of a recruitment and retention strategy to address dentist and dental hygienist vacancies, including National Health Service Corps dentist and dental hygiene openings; and
- NNOHA will work in collaboration with HRSA to implement a strategy to integrate oral health as it moves all of its programs forward in Health Information Technology to assure that oral health strategies are included.

There is a strategic importance of access to oral health as part of the primary care services supported by BPHC's Health Center Program. The Health Center Program has had significant growth as part of the President's Health Center Initiative. The number of patients seen by the Health Center Program has increased by 90 percent. Health centers have reported significant challenges recruiting and retaining oral health providers. Consequently, HRSA has determined that the scope of this proposal is immediate and necessary. The proposed

outcomes will contribute to the success and quality of oral health programs and are essential for long term sustainability and viability of health centers funded by HRSA.

This award is being made non-competitively because there is no current, pending, or planned funding opportunity announcement under which this proposal could be competed. HRSA/BPHC has identified three key reasons to support rationale for not awarding competitively:

1. NNOHA is uniquely positioned to provide oral health program support services on a national basis to community health centers. As the only organization of health center dental providers, NNOHA is dedicated to increasing the effectiveness of dental programs in reaching all underserved populations by supporting efforts to strengthen existing health center dental programs; manage the growth of new health center dental programs; and manage the quality improvement in health center dental programs.

2. With this experience, and its nationwide membership of health center dentists, NNOHA has a proven track record of effective collaborations with health center dental programs. Increased access to quality oral health is enhanced through NNOHA's partnerships with organizations and governmental agencies at the local, State and national levels.

3. No other organization has the national scope of respected experience in the area of health center oral health leadership and can perform immediately, especially given the complexity of activities that are critical to HRSA.

Legislative Authority: Section 330(l) of the Public Health Service Act.

FOR FURTHER INFORMATION CONTACT: Jay R. Anderson, DMD, MHSA, Office of Quality and Data, Bureau of Primary Health Care, Health Resources and Services Administration. Dr. Anderson may be contacted by e-mail at *Janderson@hrsa.gov* or via telephone at (301) 594–4295.

Dated: October 15, 2007.

Elizabeth M. Duke,

Administrator.

[FR Doc. E7–20703 Filed 10–19–07; 8:45 am]

BILLING CODE 4165–15–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Heart, Lung, and Blood Institute; Notice of Closed Meetings

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meetings.

The meetings will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Heart, Lung, and Blood Institute Special Emphasis Panel Research Scientist Development and Clinical Investigator Awards (K02's & K08's).

Date: November 1–2, 2007.

Time: 8 a.m. to 5 p.m.

Agenda: To review and evaluate grant applications.

Place: Marriott Baltimore/Washington Int'l Airport, 1743 West Nursery Road, Baltimore, MD 21240.

Contact Person: David A Wilson, PhD, Scientific Review Administrator, Review Branch/DERA, National Heart, Lung, and Blood Institute, 6701 Rockledge Drive, Room 7204, Bethesda, MD 20892–7924, (301) 435–0299, *wilsonda2@nhlbi.nih.gov.*

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

Name of Committee: National Heart, Lung, and Blood Institute Special Emphasis Panel Research Demonstration and Dissemination Projects.

Date: November 14, 2007.

Time: 1 p.m. to 3 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Telephone Conference Call).

Contact Person: Holly Patton, PhD, Scientific Review Administrator, Review Branch/DERA, National Heart, Lung, and Blood Institute, 6701 Rockledge Drive, Room 7188, Bethesda, MD 20892–7924, 301–435–0280, *pattonh@nhlbi.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.233, National Center for Sleep Disorders Research; 93.837, Heart and Vascular Diseases Research; 93.838, Lung Diseases Research; 93.839, Blood Diseases and Resources Research, National Institutes of Health, HHS).

Dated: October 15, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5206 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of General Medical Sciences; Notice of Closed Meetings

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meetings.

The meetings will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: Minority Programs Review Committee, MBRS Review Subcommittee B.

Date: November 2, 2007.

Time: 8:30 a.m. to 2:30 p.m.

Agenda: To review and evaluate grant applications.

Place: Residence Inn Bethesda, 7335 Wisconsin Avenue, Bethesda, MD 20814.

Contact Person: Rebecca H. Johnson, PhD, Office of Scientific Review, National Institute of General Medical Sciences, National Institutes of Health, Natcher Building, Room 3AN18C, Bethesda, MD 20892, 301–594–2771, *johnsonrh@nigms.nih.gov.*

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

Name of Committee: Minority Programs Review Committee, MARC Review Subcommittee A.

Date: November 13–14, 2007.

Time: 8 a.m. to 5 p.m.

Agenda: To review and evaluate grant applications.

Place: Hyatt Regency Bethesda, 7400 Wisconsin Avenue, Bethesda, MD 20814.

Contact Person: Mona R. Trempe, PhD, Scientific Review Administrator, Office of Scientific Review, National Institute of General Medical Sciences, National Institutes of Health, 45 Center Drive, Room 3AN12, Bethesda, MD 20892, 301–594–3998, *trempemo@mail.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.375, Minority Biomedical Research Support; 93.821, Cell Biology and

Biophysics Research; 93.859, Pharmacology, Physiology, and Biological Chemistry Research; 93.862, Genetics and Developmental Biology Research; 93.88, Minority Access to Research Careers; 93.96, Special Minority Initiatives, National Institutes of Health, HHS).

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5192 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Child Health and Human Development; Notice of Meeting

Pursuant to section 10(a) of the Federal Advisory Committee Act, as amended (5. U.S.C. Appendix 2), notice is hereby given of a meeting of the National Children's Study Advisory Committee.

The meeting will be open to the public, with attendance limited to space available. Individuals who plan to attend and need special assistance, such as sign language interpretation or other reasonable accommodations, should notify the Contact Person listed below in advance of the meeting.

Name of Committee: National Children's Study Advisory Committee.

Date: November 7–8, 2007.

Time: 9 a.m. to 2 p.m.

Agenda: Topics to be discussed: Reports from the NICHD Director and Children's Study Program Director; Issues involving the implementation of the Study; a report of the NCSAC Community Engagement Subcommittee and full discussion of the issues.

Place: National Institutes of Health, Building 31, 31 Center Drive, Bethesda, MD 20892.

Contact Person: Kate Costella, Executive Secretary, National Children's Study, National Institute of Child Health and Human Development, NIH, 6100 Executive Blvd., Room 5C01, Bethesda, MD 20892, (301) 594–8625, *costelka@mail.nih.gov.*

This meeting is being published less than 15 days prior to the meeting due to timing limitations imposed by administrative matters.

Any interested person may file written comments with the committee by forwarding the statement to the Contact Person listed on this notice. The statement should include the name, address, telephone number and when applicable, the business or professional affiliation of the interested person.

(Catalogue of Federal Domestic Assistance Program Nos. 93.864, Population Research; 93.865, Research for Mothers and Children; 93.929, Center for Medical Rehabilitation Research; 93.209, Contraception and Infertility Loan Repayment Program, National Institutes of Health, HHS).

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5193 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute on Alcohol Abuse and Alcoholism; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute on Alcohol Abuse and Alcoholism Special Emphasis Panel, Drug Development in Alcoholism.

Date: November 19, 2007.

Time: 12 p.m. to 1 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 5635 Fishers Lane, Bethesda, MD 20892. (Telephone Conference Call)

Contact Person: Beata Buzas, PhD, Scientific Review Administrator, National Institute On Alcohol Abuse and Alcoholism, National Institute of Health, 5635 Fishers Lane, Rm 3041, Rockville, MD 20852, 301–443–0800, *bbuzas@mail.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.271, Alcohol Research Career Development Awards for Scientists and Clinicians; 93.272, Alcohol National Research Service Awards for Research Training; 93.273, Alcohol Research Programs; 93.891, Alcohol Research Center Grants, National Institutes of Health, HHS).

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5194 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute on Alcohol Abuse and Alcoholism; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4), 552b(c)(6), and 552b(c)(9)(B), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute on Alcohol Abuse and Alcoholism Special Emphasis Panel Review of microRNA applications. (Telephone Conference)

Date: November 13, 2007.

Time: 1 p.m. to 2 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 5635 Fishers Lane, Bethesda, MD 20892.

Contact Person: Beata Buzas, PhD, Scientific Review Administrator, National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, 5635 Fishers Lane, Rm 3041, Rockville, MD 20852, 301–443–0800, *bbuzas@mail.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.271, Alcohol Research Career Development Awards for Scientists and Clinicians; 93.272, Alcohol National Research Service Awards for Research Training; 93.273, Alcohol Research Programs; 93.891, Alcohol Research Center Grants, National Institutes of Health, HHS)

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5195 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Child Health and Human Development; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice

is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Child Health and Human Development Initial Review Group Biobehavioral and Behavioral Sciences Subcommittee.

Date: November 13–14, 2007.

Time: 9 a.m. to 6 p.m.

Agenda: To review and evaluate grant applications.

Place: Doubletree Hotel, 1515 Rhode Island NW., Washington, DC 20005.

Contact Person: Marita R. Hopmann, PhD, Scientific Review Administrator, Division of Scientific Review, National Institute of Child Health and Human Development, NIH, 6001 Executive Boulevard, Room 5B01, Bethesda, MD 20892, (301) 435–6911, *hopmannm@mail.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.864, Population Research; 93.865, Research for Mothers and Children; 93.929, Center for Medical Rehabilitation Research; 93.209, Contraception and Infertility Loan Repayment Program, National Institutes of Health, HHS).

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5196 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Child Health and Human Development; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Child Health and Human Development Special Emphasis Panel, Conflict SEP for Pediatrics.

Date: November 15, 2007.

Time: 10 a.m. to 1 p.m.

Agenda: To review and evaluate grant applications,

Place: National Institutes of Health, 6100 Executive Boulevard, 5B01, Rockville, MD 20852, (Telephone Conference Call).

Contact Person: Michele C. Hindi-Alexander, PhD, Division of Scientific Review, National Institutes of Health, National Institute for Child Health and Human Development, 6100 Executive Boulevard, Room 5B01, Bethesda, MD 20812–8382, *hindialm@mail.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.864, Population Research; 93.865, Research for Mothers and Children; 93.929, Center for Medical Rehabilitation Research; 93.209, Contraception and Infertility Loan Repayment Program, National Institutes of Health, HHS)

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5197 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Child Health and Human Development; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Child Health and Human Development Special Emphasis Panel, Reproduction Centers Meeting.

Date: November 15–16, 2007.

Time: 8 a.m. to 6 p.m.

Agenda: To review and evaluate grant applications.

Place: Courtyard Gaithersburg Washingtonian Center, 204 Boardwalk Place, Gaithersburg, MD 20878.

Contact Person: Dennis E. Leszczynski, PhD, Scientific Review Administrator, Division of Scientific Review, National Institute of Child Health and Human Development, NIH, 6001 Executive Blvd., Rm. 5B01, Bethesda, MD 20892, (301) 435–6884, *leszczyd@mail.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.864, Population Research; 93.865, Research for Mothers and Children; 93.929, Center for Medical Rehabilitation Research; 93.209, Contraception and Infertility Loan Repayment Program, National Institutes of Health, HHS)

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5198 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Mental Health; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Mental Health Special Emphasis Panel NCDDG Drug Discovery.

Date: November 13, 2007.

Time: 8 a.m. to 1 p.m.

Agenda: To review and evaluate grant applications.

Place: One Washington Circle Hotel, One Washington Circle, Washington, DC 20037.

Contact Person: Yong Yao, Ph.D, Scientific Review Administrator, Division of Extramural Activities, National Institutes of Mental Health, NIH, Neuroscience Center, 6001 Executive Blvd., Room 6149, MSC 9606, Bethesda, MD 20892–9606, 301 443–6102, *yyao@mail.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.242, Mental Health Research Grants; 93.281, Scientist Development Award, Scientist Development Award for Clinicians, and Research Scientist Award;

93.282, Mental Health National Research Service Awards for Research Training, National Institutes of Health, HHS)

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5200 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Neurological Disorders and Stroke; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Neurological Disorders and Stroke Special Emphasis Panel Fellowship Review.

Date: November 30, 2007.

Time: 8 a.m. to 5 p.m.

Agenda: To review and evaluate grant applications.

Place: Mandarin Oriental Hotel, 1330 Maryland Avenue, SW., Washington, DC 20024.

Contact Person: Joann McConnell, PhD, Scientific Review Administrator, Scientific Review Branch, NIH/NINDS/Neuroscience Center, 6001 Executive Blvd., Suite 3208, MSC 9529, Bethesda, MD 20892–9529, (301) 496–5324, *mcconnej@ninds.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.853, Clinical Research Related to Neurological Disorders; 93.854, Biological Basis Research in the Neurosciences, National Institutes of Health, HHS)

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5201 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Child Health and Human Development; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Child Health and Human Development Special Emphasis Panel, Environmental & Biological Variation and Language Growth.

Date: October 11, 2007.

Time: 1 p.m. to 5 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6100 Executive Boulevard, 5B01, Rockville, MD 20852. (Telephone Conference Call)

Contact Person: Marita R. Hopmann, PhD, Scientific Review Administrator, Division of Scientific Review, National Institute of Child Health and Human Development, 6100 Building, Room 5B01, Bethesda, MD 20892, (301) 435–6911, *hopmannm@mail.nih.gov.*

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

(Catalogue of Federal Domestic Assistance Program Nos. 93.864, Population Research; 93.865, Research for Mothers and Children; 93.929, Center for Medical Rehabilitation Research; 93.209, Contraception and Infertility Loan Repayment Program, National Institutes of Health, HHS)

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5203 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Allergy and Infectious Diseases; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The contract proposals and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the contract proposals, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Allergy and Infectious Diseases Special Emphasis Panel Management of Information Resources on Therapeutic Agents.

Date: November 12, 2007.

Time: 8 a.m. to 6 p.m.

Agenda: To review and evaluate contract proposals.

Place: North Bethesda Marriott, 5701 Marinelli Road, Bethesda, MD 20852.

Contact Person: Ileana M. Ponce-Gonzalez, MD, MPH, Scientific Review Administrator, Scientific Review Program, Division of Extramural Activities, National Institutes of Health/NIAID, 6700B Rockledge Drive, MSC 7616, Bethesda, MD 20892–7616, 301–451–3679, *ipgonzalez@niaid.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.855, Allergy, Immunology, and Transplantation Research, 93.856, Microbiology and Infectious Diseases Research, National Institutes of Health, HHS)

Dated: October 15, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5204 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Center for Scientific Review; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the

provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: Center for Scientific Review Special Emphasis Panel Endocrinology and Reproductive Sciences.

Date: October 26, 2007.

Time: 1 p.m. to 5 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Virtual Meeting)

Contact Person: Krish Krishnan, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 6164, MSC 7892, Bethesda, MD 20892, (301) 435–1041, *krishnak@csr.nih.gov*.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

(Catalogue of Federal Domestic Assistance Program Nos. 93.306, Comparative Medicine; 93.333, Clinical Research; 93.306, 93.333, 93.337, 93.393–93.396, 93.837–93.844, 93.846–93.878, 93.892, 93.893, National Institutes of Health, HHS)

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5199 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Center for Scientific Review; Amended Notice of Meeting

Notice is hereby given of a change in the meeting of the Center for Scientific Review Special Emphasis Panel, October 31, 2007, 8 a.m. to November 1, 2007, 5 p.m., Hotel Del Coronado, 1500 Orange Avenue, Coronado, CA, 92118 which was published in the **Federal Register** on October 4, 2007, 72 FR 56780–56782.

The meeting will be held one day only on October 31, 2007, 8 a.m. to 4 p.m. The meeting location remains the same. The meeting is closed to the public.

Dated: October 12, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5202 Filed 10–19–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Center for Scientific Review; Notice of Closed Meetings

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meetings.

The meetings will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: Center for Scientific Review Special Emphasis Panel, Fungal Pathogenesis.

Date: November 8, 2007.

Time: 12:30 p.m. to 2:30 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Telephone Conference Call)

Contact Person: Alexander D. Politis, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 3210, MSC 7808, Bethesda, MD 20892, (301) 435–1150, *politisa@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel, Cardiac Remodeling.

Date: November 13, 2007.

Time: 2:30 p.m. to 5 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Virtual Meeting)

Contact Person: Maqsood A. Wani, PhD, DVM, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 2114, MSC 7814, Bethesda, MD 20892, 301–435–2270, *wanimaqs@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel, Function, Trafficking, and Plasticity at the Synapse.

Date: November 13, 2007.

Time: 3 p.m. to 6 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Telephone Conference Call)

Contact Person: Joanne T. Fujii, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4184, MSC 7850, Bethesda, MD 20892, (301) 435–1178, *fujiij@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel, Member Conflict: Oral, Dental and Craniofacial Sciences.

Date: November 14, 2007.

Time: 1 p.m. to 4:30 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Telephone Conference Call)

Contact Person: J. Terrell Hoffeld, DDS, PhD, Dental Officer, USPHS, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4116, MSC 7816, Bethesda, MD 20892, 301–435–1781, *th88q@nih.gov*.

Name of Committee: Center for Scientific Review Special Emphasis Panel Metal Ions Homeostasis.

Date: November 14–15, 2007.

Time: 12 p.m. to 3 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Virtual Meeting)

Contact Person: Alessandra M. Bini, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 5142, MSC 7840, Bethesda, MD 20892, 301–435–1024, *binia@csr.nih.gov*.

Name of Committee: AIDS and Related Research Integrated Review Group Behavioral and Social Science Approaches to Preventing HIV/AIDS Study Section.

Date: November 15–16, 2007.

Time: 8 a.m. to 5 p.m.

Agenda: To review and evaluate grant applications.

Place: Beacon Hotel, 1615 Rhode Island Avenue, NW., Washington, DC 20036.

Contact Person: Jose H. Guerrier, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 5222, MSC 7852, Bethesda, MD 20892, 301–435–1137, *guerriej@csr.nih.gov*.

Name of Committee: Center for Scientific Review Special Emphasis Panel Predoctoral Fellowship to Promote Diversity in Health-Related Research (DCPS).

Date: November 15–16, 2007.

Time: 8 a.m. to 5 p.m.

Agenda: To review and evaluate grant applications.

Place: Holiday Inn Georgetown, 2101 Wisconsin Avenue, NW., Washington, DC 20007.

Contact Person: Fungai F. Chanetsa, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 3135, MSC 7770, Bethesda, MD 20892, 301–435–1262, *chanetsaf@csr.nih.gov*.

Name of Committee: Center for Scientific Review Special Emphasis Panel AIDS and Brain Disorders in the Development World.
Date: November 15, 2007.
Time: 8 a.m. to 11 a.m.
Agenda: To review and evaluate grant applications.
Place: George Washington University Inn, 824 New Hampshire Avenue, NW., Washington, DC 20037.
Contact Person: Manana Sukhareva, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 3214, MSC 7808, Bethesda, MD 20892, 301–435–1116, *sukharem@csr.nih.gov*.

Name of Committee: Center for Scientific Review Special Emphasis Panel Cognition, Language and Perception Fellowship Study Section.
Date: November 15, 2007.
Time: 9 a.m. to 5 p.m.
Agenda: To review and evaluate grant applications.
Place: Coast Long Beach Hotel, 700 Queensway Drive, Long Beach, CA 90802.
Contact Person: Dana Jeffrey Plude, PhD, Scientific Review Officer, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 3176, MSC 7848, Bethesda, MD 20892, 301–435–2309, *pluded@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel, Learning and Neuroethology in Rodent Models.
Date: November 15, 2007.
Time: 10 a.m. to 11:30 a.m.
Agenda: To review and evaluate grant applications.
Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Telephone Conference Call)
Contact Person: Maribeth Champoux, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 3146, MSC 7759, Bethesda, MD 20892, 301–594–3163, *champoum@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel, AIDS International Training and Research Program.
Date: November 15, 2007.
Time: 11 a.m. to 4 p.m.
Agenda: To review and evaluate grant applications.
Place: George Washington University Inn, 824 New Hampshire Avenue, NW., Washington, DC 20037.
Contact Person: Manana Sukhareva, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 3214, MSC 7808, Bethesda, MD 20892, 301–435–1116, *sukharem@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel, Small Business: Digestive Sciences and Bioengineering.
Date: November 15, 2007.
Time: 12 p.m. to 5 p.m.
Agenda: To review and evaluate grant applications.
Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Virtual Meeting)
Contact Person: Bonnie L. Burgess-Beusse, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 2191C, MSC 7818, Bethesda, MD 20892, 301–435–1783, *beusseb@mail.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel, Special Topics in Neurotransmitters, Neurotransporters and Channels.
Date: November 15, 2007.
Time: 12 p.m. to 2 p.m.
Agenda: To review and evaluate grant applications.
Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Telephone Conference Call)
Contact Person: Deborah L. Lewis, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4118, MSC 7850, Bethesda, MD 20892, 301–435–1224, *lewisdeb@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel, Epidemiology of Bacterial Infection and Asthma.
Date: November 16, 2007.
Time: 1 p.m. to 3:30 p.m.
Agenda: To review and evaluate grant applications.
Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Telephone Conference Call)
Contact Person: Heidi B. Friedman, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 1012A, MSC 7770, Bethesda, MD 20892, 301–435–1721, *hfriedman@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel, Cardiac and Vascular Development.
Date: November 16, 2007.
Time: 1:30 p.m. to 3 p.m.
Agenda: To review and evaluate grant applications.
Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Telephone Conference Call)
Contact Person: Larry Pinkus, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4132, MSC 7802, Bethesda, MD 20892, (301) 435–1214, *pinkusl@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel, Blood Clotting System.
Date: November 16, 2007.
Time: 2 p.m. to 5 p.m.
Agenda: To review and evaluate grant applications.
Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Telephone Conference Call)
Contact Person: Robert T. Su, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4134, MSC 7802, Bethesda, MD 20892, (301) 435–1195, *sur@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel, Cardiac Contractility.
Date: November 16, 2007.
Time: 2:30 p.m. to 5 p.m.
Agenda: To review and evaluate grant applications.
Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892. (Virtual Meeting)
Contact Person: Maqsood A. Wani, PhD, DVM, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 2114, MSC 7814, Bethesda, MD 20892, 301–435–2270, *wanimaqs@csr.nih.gov*.

(Catalogue of Federal Domestic Assistance Program Nos. 93.306, Comparative Medicine; 93.333, Clinical Research, 93.306, 93.333, 93.337, 93.393–93.396, 93.837–93.844, 93.846–93.878, 93.892, 93.893, National Institutes of Health, HHS).

Dated: October 15, 2007.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07–5205 Filed 19–10–07; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. 5100–FA–27A]

Announcement of Funding Awards for Fiscal Year 2007 Doctoral Dissertation Research Grant Program

AGENCY: Office of the Assistant Secretary for Policy Development and Research, HUD.

ACTION: Announcement of funding awards.

SUMMARY: In accordance with section 102(a)(4)(C) of the Department of Housing and Urban Development Reform Act of 1989, this document notifies the public of funding awards for the Fiscal Year (FY) 2007 Doctoral Dissertation Research Grant (DDRG) Program. The purpose of this document is to announce the names and addresses of the award winners and the amount of the awards to be used to help doctoral candidates complete dissertations on topics that focus on housing and urban development issues.

FOR FURTHER INFORMATION CONTACT: Susan Brunson, Office of University Partnerships, U.S. Department of Housing and Urban Development, Room 8106, 451 Seventh Street, SW., Washington, DC 20410, telephone (202) 402–3852. To provide service for persons who are hearing-or speech-impaired, this number may be reached via TTY by Dialing the Federal Information Relay Service on (800) 877–8339 or (202) 708–1455. (Telephone numbers, other than ''800'' TTY numbers, are not toll free).

SUPPLEMENTARY INFORMATION: The DDRG Program was created as a means of

expanding the number of researchers conducting research on subjects of interest to HUD. Doctoral candidates can receive grants of up to $25,000 to complete work on their dissertations. Grants are awarded for a two-year period.

The Office of University Partnerships under the Assistant Secretary for Policy Development and Research (PD&R) administers this program. In addition to this program, the Office of University Partnerships administers HUD's ongoing grant programs to institutions of higher education as well as creates initiatives through which colleges and universities can bring their traditional missions of teaching, research, service, and outreach to bear on the pressing local problems in their communities.

The Catalog of Federal Domestic Assistance number for this program is 14.517.

May 13, 2007, (72 FR 11758), HUD published a Notice of Funding Availability (NOFA) announcing the availability of $300,000 in FY 2007 funds for the DDRG Program. The Department reviewed, evaluated and scored the applications received based on the criteria in the NOFA. As a result, HUD has funded the applications announced below, and in accordance with Section 102(a)(4)(C) of the Department of Housing and Urban Development Reform Act of 1989 (103 Stat. 1987, U.S.C. 3545). More information about the winners can be found at *http://www.oup.org*.

List of Awardees for Grant Assistance Under the Fiscal Year (FY) 2007 Doctoral Dissertation Reseach Grant Program Funding Competition, by Institution, Address, Grant Amount and Name of Student Funded

1. University of Illinois-Urbana Champaign, Kathy Young, University of Illinois-Urbana Champaign, Urban and Regional Planning, 1901 South First Street, Suite A, Office of Sponsored Programs and Research Administration, Champaign, IL 61820–7406. Grant: $24,957 to Julia Koschinsky
2. The Trustee of Indiana University, Robert Robinson, The Trustee of Indiana University, Department of Sociology, P.O. Box 1847, Bloomington, IN 47402–1847. Grant: $24,842 to Evelyn Perry
3. North Carolina State University, Matt Ronning, North Carolina State University, Department of Public and International Affairs, 2701 Sullivan Drive, Administration Services III MS7514, Raleigh, NC 27695–7514. Grant: $25,000 to Charles Reiss
4. Northwestern University, Susan Ross, Northwestern University, Office for Sponsored Research, 633 Clark Street, Evanston, IL 60208–1110. Grant: $23,796 to Anita Zuberi
5. Princeton University, Sally Waltman, Princeton University, Department of Sociology, P.O. Box 36, 4 New South Building, Princeton, NJ 08544. Grant: $22,220 to Debbie Becher
6. University of Wisconsin-Madison, Diane Barrett, University of Wisconsin-Madison, Department of Sociology, 21 North Park Street, Suite 6401, Madison, WI 53715–1218. Grant: $25,000 to Matthew Desmond
7. University of Wisconsin-Madison, Dr. Lewis Friedland, University of Wisconsin-Madison, Department of Journalism/Mass Communication, 21 North Park Street, Suite 6401, Madison, WI 53715–1218. Grant: $25,000 to Yong Jun Shin
8. Temple University, Roseanne Wallin, Temple University, Department of History, Room 406 USB, 1601 North Broad Street, Philadelphia, PA 19122. Grant: $25,000 to Charles Nier
9. Portland State University, William Helseley, Portland State University, Institute of Aging, P.O. Box 751 (ORSD), Portland, OR 97207. Grant: $25,000 to Andree Tremoulet
10. The Trustee of Columbia University, Daniel Calto, The Trustee of Columbia University, 1210 Amsterdam Avenue, Mail Code 2205, New York, NY 10027–6902. Grant: $25,000 to David Madden
11. Ohio State University Research Foundation, Laurie Rosenberg, Ohio State University Research Foundation, Sponsored Program, 1960 Kenny Road, Columbus, OH 43210. Grant: $24,968 to Diana Karafin
12. University of Texas at Austin, Dr. Susan Sedwick, University of Texas at Austin, Office of Sponsored Projects, P.O. Box 7726, Austin, TX 78713–7726. Grant: $25,000 to Jenna Tighe

Dated: October 9, 2007.

Darlene F. Williams,

Assistant Secretary for Policy Development and Research.

[FR Doc. E7–20695 Filed 10–19–07; 8:45 am]

BILLING CODE 4210–67–P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. FR–5100–FA–27]

Announcement of Funding Awards for Fiscal Year 2007 Early Doctoral Student Research Grant Program

AGENCY: Office of the Assistant Secretary for Policy Development and Research, HUD.

ACTION: Announcement of funding awards.

SUMMARY: In accordance with section 102(a)(4)(C) of the Department of Housing and Urban Development Reform Act of 1989, this document notifies the public of funding awards for the Fiscal Year (FY) 2007 Early Doctoral Student Research Grant (EDSRG) Program. The purpose of this document is to announce the names and addresses of the award winners and the amount of the awards to be used to help doctoral students cultivate their research skills through the preparation of research manuscripts that focus on housing and urban development issues.

FOR FURTHER INFORMATION CONTACT: Susan Brunson, Office of University Partnerships, Department of Housing and Urban Development, Room 8106, 451 Seventh Street, SW., Washington, DC 20410, telephone (202) 402–3852. To provide service for persons who are hearing- or speech-impaired, this number may be reached via TTY by Dialing the Federal Information Relay Service on (800) 877–8339 or (202) 708–1455. (Telephone numbers, other than ''800'' TTY numbers, are not toll free).

SUPPLEMENTARY INFORMATION: The EDSRG Program provides funds to eligible doctoral students to cultivate their research skills through preparation of research manuscripts that focus on policy-relevant housing and urban development issues. Students, who are in the early stages of their doctoral studies, have 12 months to complete a major research study. The maximum amount to be awarded to a doctoral student is $15,000.

The Office of University Partnerships under the Assistant Secretary for Policy Development and Research (PD&R) administers this program. In addition to this program, the Office of University Partnerships administers HUD's ongoing grant programs to institutions of higher education as well as creates initiatives through which colleges and universities can bring their traditional missions of teaching, research, service, and outreach to bear on the pressing local problems in their communities.

The Catalog of Federal Domestic Assistance number for this program is 14.517.

May 13, 2007, (72 FR 11758), HUD published a Notice of Funding Availability (NOFA) announcing the availability of $105,000 in FY 2007 funds for the EDSRG Program. The Department reviewed, evaluated and scored the applications received based on the criteria in the NOFA. As a result, HUD has funded the applications

announced below, and in accordance with section 102(a)(4)(C) of the Department of Housing and Urban Development Reform Act of 1989 (103 Stat. 1987, U.S.C. 3545). More information about the winners can be found at *http://www.oup.org.*

List of Awardees for Grant Assistance Under the Fiscal Year (FY) 2007 Early Doctoral Student Research Grant Program Funding Competition, by Institution, Address, Grant Amount and Name of Student Funded

1. Brandeis University, Stanley Bolotin, Brandeis University, Heller School, IASP, 415 South Street, Waltham, MA 02454–9110. Grant: $13,580 to Hannah Thomas.

2. The Regents of the University of California, Irvine, Chris Abernethy, The Regents of the University of California, Irvine, Office of Research Administration, 300 University Tower, Irvine, CA 92697. Grant: $15,000 to Rocco Pendola.

3. Tulane University, Dr. Felicia Rabito, Tulane University, School of Public Health, Department of Epidemiology, 1430 Tulane Avenue, EP 15, New Orleans, LA 70112. Grant: $15,000 to Elizabeth Holt.

4. University of Tennessee, Kay Cogley, University of Tennessee, Office of Research, 1534 White Avenue, Knoxville, TN 37996–1529. Grant: $15,000 to Courtney Cronley.

5. The Regents of the University of California, Berkeley, Susan Hedley, Sponsored Projects Office, The Regents of the University of California, Berkeley, 2150 Shattuck Avenue, Suite 313, Berkeley, CA 94704–5940. Grant: $15,000 to Richard Smith.

6. Trustees of Indiana University, David Renigold, Trustees of Indiana University, P.O. Box 1847, Bloomington, IN 47402–1847. Grant: $14,413 to Stephanie Moulton.

7. The George Washington University, Harold Gollos, The George Washington University, Department of Economics, 2121 Eye Street, NW., Suite 601, Washington, DC 20052. Grant: $14,700 to William Larson.

Dated: October 9, 2007.

Darlene F. Williams,

Assistant Secretary for Policy Development and Research.

[FR Doc. E7–20687 Filed 10–19–07; 8:45 am]

BILLING CODE 4210–67–P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of Federal Housing Enterprise Oversight

Statement on the Conforming Loan Limit for 2008 and Revised Draft Examination Guidance

AGENCY: Office of Federal Housing Enterprise Oversight, HUD.

ACTION: Notice of availability of statement and request for comments on Revised Draft Examination Guidance.

SUMMARY: The Office of Federal Housing Enterprise Oversight is publishing today a Statement on the Conforming Loan Limit for 2008 and issuing for additional public comment a revised version of the Proposed Examination Guidance, entitled ''Conforming Loan Limit Calculations'' (Policy Guidance). Material in the proposed guidance does not constitute a regulation.

DATES: Comments on OFHEO's Revised Draft Examination Guidance should be received by November 21, 2007.

ADDRESSES: Send all comments on OFHEO's Revised Draft Examination Guidance to: the Office of Federal Housing Enterprise Oversight, Fourth Floor, 1700 G Street, NW., Washington, DC 20552.

FOR FURTHER INFORMATION CONTACT: If you have any questions regarding OFHEO's Revised Draft Examination Guidance, you may contact Alfred M. Pollard, General Counsel, at (202) 414–3800 (not a toll free number). The telephone number for the Telecommunications Device for the Deaf is: (800) 877–8339 (TDD *Only*).

SUPPLEMENTARY INFORMATION: OFHEO's Revised Draft Examination Guidance is posted on the Internet at *http://www.ofheo.gov.* This document, as well as all others mentioned in the preamble can also be accessed on business days between the hours of 10 a.m. and 3 p.m., at the Office of Federal Housing Enterprise Oversight, Fourth Floor, 1700 G Street, NW., Washington, DC 20552. To make an appointment to inspect documents, please call the Office of General Counsel at (202) 414–6924.

Comments Invited: You may submit your comments on OFHEO's Revised Draft Examination Guidance'' by any of the following methods:

- *U.S. Mail, United Parcel Post, Federal Express, or Other Mail Service:* The mailing address for comments is: Alfred M. Pollard, General Counsel, Attention: Comments/Revised Draft Examination Guidance, Office of Federal Housing Enterprise Oversight, Fourth Floor, 1700 G Street, NW., Washington, DC 20552.
- *Hand Delivery/Courier:* The hand delivery address is: Alfred M. Pollard, General Counsel, Attention: Comments ''Revised Draft Examination Guidance,'' Office of Federal Housing Enterprise Oversight, Fourth Floor, 1700 G Street, NW., Washington, DC 20552. The package should be logged at the Guard Desk, First Floor, on business days between 9 a.m. and 5 p.m.
- *E-mail:* The e-mail address is: *RegComments@OFHEO.gov.*
- *Internet:* When accessing documents online at *http://www.ofheo.gov,* comments can be sent by clicking the link for *November 13, 2007.*
- *Instructions:* All submissions of received comments must include the reference ''Revised Draft Examination Guidance'' in the subject line of the message. All comments received will be posted without change to *http://www.ofheo.gov* and will include any personal information provided.

I. Statement on the Conforming Loan Limit for 2008

On November 15, 2006, OFHEO announced that any decline in the house price index used to establish the conforming loan limit would not result in a decline in that limit for 2007. OFHEO also committed at that time to providing updated guidance on how future reductions in the house price index would affect the conforming loan limit.

On June 20, 2007, OFHEO released on its Web site for public comment a proposed revision to its existing Examination Guidance entitled ''Conforming Loan Limit Calculations'' (the original proposal). Today, OFHEO is publishing in the **Federal Register** for public comment a revised version of that proposed guidance (the revised proposal).

Both the original and revised proposal provide for holding the conforming loan limit constant, rather than having it decline, should the relevant house price index decline by a de minimis amount. The $650 decline in the conforming loan limit implied by last year's house price decline falls within the de minimis range as originally proposed and as proposed here.

Consistent with this intention of having a de minimis change exception to potential reductions in the loan limit, OFHEO is today affirming that the current $417,000 conforming loan limit will not be reduced in 2008, without regard to any reduction in the relevant house price index in 2007. Should the relevant house price index show an

increase in 2007, the conforming loan limit will either remain unchanged (if the increase is less than or equal to last year's decline), or increase (if the increase exceeds last year's decline, then that decline will be netted against this year's increase). In any event, the current $417,000 conforming loan limit will not decline in 2008.

II. Request for Comment on Revised Examination Guidance, Conforming Loan Limit Calculations

The Office of Federal Housing Enterprise Oversight is publishing today for public comment a revised Examination Guidance, entitled *Conforming Loan Limit Calculations.* Following comments received on the original proposal, OFHEO determined to make certain changes and to provide an opportunity for public comment on the revised proposal.

Among other sections addressing procedures for calculating and implementing increases and decreases to the conforming loan limit, the original guidance proposed in its core provisions that decreases be deferred one year and then only taken when they clear a de minimis amount. In short, the loan limit decrease that was deferred for 2007 will be deferred an additional year to 2009 if the underlying house price series declines again this year, as the previously deferred decrease was less than a de minimis amount (three percent). If the underlying series increases this year, the decrease will be subtracted from such increase in determining the maximum loan limits for 2008.

OFHEO provided for public comment on the proposed examination guidance on OFHEO's Web site on June 20, 2007, and at the end of a thirty day comment period, some 23 comments from 25 organizations (representing over 2 million businesses) and individuals were received. OFHEO has taken these comments into consideration and has made alterations to the guidance. Central to OFHEO's consideration was assuring clarity in the process of calculating loan limits, providing for smooth market operations and affording certainty to those involved in making and securing mortgages—Fannie Mae and Freddie Mac, mortgage originators, and homebuyers.

The proposed guidance elaborated on, revised and superseded an existing guidance—Supervisory Guidance *Conforming Loan Limit Calculations*, SG–04–01 (February 20, 2004) that delineated OFHEO's role in calculating and announcing the conforming loan limit. In 2006, after a decline in housing price numbers, OFHEO announced that, while the conforming loan level had decreased, the resulting decline in the limit would be delayed a year. OFHEO also indicated it would revise and update the existing guidance and address how the decline would be implemented.

Background

Calculations for the conforming loan limit establish the maximum size of loans that Fannie Mae and Freddie Mac may purchase, as provided in their charters. The conforming loan limit is adjusted annually through a calculation of year over year changes to the existing level of home prices based on data from the Federal Housing Finance Board's Monthly Interest Rate Survey (MIRS).

Congress established the concept of loan size limit on purchases by Fannie Mae and Freddie Mac as an integral part of the creation of their ''mission.'' Statutory language relating to the conforming loan limit permits ''adjustments'' to the conforming loan limit based on the ''percentage increase'' of the prior year. The statutes did not address what would happen in the event that no increase occurred in the home price figures or the price figures declined. In November 2006, OFHEO acted to address this gap in the statutes, indicating that a decline or ''negative increase'' had occurred in 2006 and would be taken into account following a one year deferral. As well, OFHEO committed to a revision of its existing guidance to address the process and procedures involved in calculations and how decreases would be implemented.

Because of the importance of Fannie Mae and Freddie Mac and the conforming loan limit to the mortgage markets and the interest of other financial institutions, mortgage bankers, builders, realtors and others, OFHEO solicited public comment on the guidance.

OFHEO sought comment on all aspects of the guidance, noting certain key provisions. These were (1) addressing whether and how existing conforming loans should be grandfathered; (2) addressing a number of procedural matters, including rounding down announced loan limits to the nearest $100; and (3) providing clarity on declines in the conforming loan limit. As proposed, the decline would have to represent a greater than one percent drop in the loan limit (currently $417,000) or it would be deferred. Once deferrals reached one percent, then the total decline would be subtracted (one year later) from the conforming loan limit adjusting for any increase that had occurred. For example, the one percent threshold and one year lag mean that the earliest the 2006 and 2007 conforming loan limit of $417,000 could be adjusted downward would be in 2009. That would only occur if prices continued to decline in 2007 and the cumulative 2006–2007 decline exceeded one percent, even after netting any 2008 increase.

III. Comments and Changes to the Conforming Loan Limit Guidance

After a full review of comments, OFHEO has undertaken a number of changes and determined to publish a revised version of the guidance for additional comment.

1. Loan Limit Declines and Statute

Some comments received agreed with OFHEO's determination while others disagreed. Most comments in opposition focused on statutory language relating to adding increases to an existing conforming loan limit or suggested that as a matter of policy declines should never be taken but rather be subtracted in years when the loan limit increased.

OFHEO determined that declines fit within the statutory language as ''negative increases.'' In the alternative, where statutory language is silent, as is the case here, regulators routinely fill gaps in statutes with rational solutions in line with available statutory intent. Since loan limit calculations are tied to annual home price surveys, increases and declines reasonably may be considered in line with that statutory structure. OFHEO has determined that filling the gap in statutory language is appropriate and sought to address, in light of comments, how its proposed guidance would be implemented.

2. Loan Limit Declines—Deferrals

Comments received suggested that a deferral period was preferred. Most commenters, whether they opposed declines or not, favored an implementation of declines in the conforming loan limit with as little market disruption as possible. OFHEO agrees that its implementation should result in the least impact on both market operations and provide the greatest certainty for planning in the mortgage markets.

The revised guidance would implement the proposed deferral of one year. This would permit markets well in advance to know that a decline may be forthcoming. Further, there will be certainty about the minimum level for the coming year.

In line with comments received, OFHEO has amended the language to clarify that no loan limit decreases of less than the de minimis amount will be required, and that any such amounts

would be carried forward to the following year's determination. Decreases would be deferred until they reach a cumulative three percent or until they are used to offset future increases, so that ultimately cumulative percentage changes in the maximum loan limits would not exceed cumulative percentage changes in the MIRS price series (after any adjustments for methodological changes).

3. Loan Limit Declines—De Minimis and How Applied

While comments received included those favoring the de minimis amount as proposed, many endorsed a larger de minimis amount to support OFHEO's efforts to keep market impact to a minimum. Some argued that the de minimis amount should be larger, in part to reflect the volatility of the price series obtained from the Federal Housing Finance Board's MIRS reports.

The proposed guidance, in light of comments filed and a reexamination of the volatility in the MIRS price data, increases the de minimis amount from one percent to three percent. Because the maximum loan limits are based on 12-month changes (October-to-October) in the MIRS price series, we examined the history of 12-month changes. Volatility in that series is markedly lower after 1993, but still large. Particularly noteworthy is the frequency of month-to-month reversals. One would expect the overlapping series of 12-month changes to be fairly smooth, but more often than not the 12-month change ending in any month is not within the range of 12-month changes ending in the preceding and succeeding months. That is, if the average price increased 3 percent in the 12 months ending in March, and it increased 8 percent in the 12 months ending in May, then more likely than not it either increased less than 3 percent or more than 8 percent in the 12 months ending in April.

Over the past 150 months, data for 96 months are outside the range of the preceding and succeeding months. In 61 cases, the middle month is more than one percentage point outside the range; in 35 cases, more than two percentage points; and in 16 cases, more than three percentage points. These results present strong evidence that a 12-month change of one or even two percent may easily be reversed the next month, and is therefore not an adequate justification for requiring a lowering of the loan limits. Some of these reversals no doubt reflect true turning points in house price behavior, however, most clearly do not. A reversal of 3 percent seems sufficiently unusual to assume it likely reflects a real change in house price trends.

Accordingly, OFHEO has revised the guidance to provide for three percent as the de minimis amount.

Declines in the loan limit would be applied as described in section 2 above and as described in the Appendix to the revised guidance.

4. Grandfathering Issues

Comments received suggested that proposed grandfathering of loans that conformed with the loan limit prior to a decline in the loan limit to facilitate operation of mortgage pipelines could be improved and clarified.

OFHEO determined that clarification was in order and, in line with comments received, has revised the guidance to provide that if a loan has been conforming at any time, it cannot become non-conforming by virtue of a subsequent decline in the loan limit. Modification of a loan would not change its origination date or whether it is within the loan limits.

5. Rounding Down and Other Matters

Comments received regarding a rounding down to the lowest $100 as opposed to the current OFHEO practice of rounding down to the lowest $50 were mixed with some opposing and others indicating either no objection to or no opinion on OFHEO's proposal.

The revised guidance would adopt the approach of rounding down to the nearest $100 as having value as to market and consumer simplicity and understanding. Also, it would represent a doubling of this rounding standard, a much smaller percentage change than the increase in the loan limits since the $50 standard was adopted.

Accordingly, as stated in the Preamble, OFHEO is revising the Examination Guidance on Conforming Loan Limit Calculations as follows:

Dated: October 15, 2007.

James B. Lockhart III,

Director, Office of Federal Housing Enterprise Oversight.

OFHEO

Examination Guidance

Issuance Date: October, 2007
Doc. #: PG–07–001
Subject: Conforming Loan Limit Calculations

To: OFHEO Examiners
OFHEO Associate Directors.

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I. Introduction

a. Scope

This guidance addresses the annual establishment of the conforming loan limit amount for mortgages purchased by Fannie Mae and Freddie Mac (''the Enterprises'') and OFHEO supervisory procedures related to such activity. This guidance replaces Supervisory Guidance SG–04–01.

(1) OFHEO Supervisory Authority

OFHEO oversees two housing government sponsored enterprises—Fannie Mae and Freddie Mac—to assure they operate in a safe and sound manner and maintain adequate capital; 12 U.S.C. 4501, 4511, 4513. OFHEO's responsibilities include avoiding situations that would present safety and soundness problems; 12 CFR part 1720, Appendices A and B and 12 CFR part 1777. In addressing areas where such problems could arise, OFHEO has highlighted corporate governance and financial disclosures; 12 CFR parts 1730 and 1710. In its regulation on disclosure, OFHEO noted key areas of concern-access to markets and potential damages to the firms from incurring—reputation risk. Therefore, OFHEO has set forth this guidance to ensure that the conforming loan limit is established in a manner consistent with safe and sound operations and with statutory requirements.

For twenty-five years of practice, the Enterprises announced a conforming loan limit. However, in seven of those years adjustments or decisions were made that raise safety and soundness concerns about the annual adjustment to the conforming loan limit. OFHEO believes that the situation may be addressed through appropriate guidance, setting a more regularized process of oversight and control for this matter of national significance. That is the intent of this guidance.

(2) Conforming Loan Limit (CLL)

The Enterprises are authorized by their charters to purchase mortgages up to a specified limit as adjusted annually; 12 U.S.C. 302(b)(2) and 305(a)(2). This

limit is referred to as the conforming loan limit (CLL).

The Enterprises make this adjustment based on a survey conducted by the Federal Housing Finance Board (FHFB). The FHFB monthly conducts and publishes the results of a survey of mortgage interest rates, the Monthly Interest Rate Survey (MIRS). Under the Enterprise charters, the change in the national average one-family house price during the twelve-month period ending with the previous October as determined by the FHFB in its survey is the basis for changes to the conforming loan limit. The Enterprises apply the percentage change to the current year's conforming loan limit to establish the next year's limit. This number constitutes part of the determinations of the eligibility of loans for Enterprise purchases.

OFHEO as safety and soundness regulator has responsibility to oversee safe and sound operations and may act to redress violations of law by the Enterprises. In the case of the conforming loan limits OFHEO determined in 2004, following a problem in technical matters relating to the limits, that a more formalized process for establishing the conforming loan limit was needed.

(3) Background to Conforming Loan Limit Determinations

Since 1981, the Enterprises have adjusted the conforming loan limit as allowed under the Housing and Community Development Act of 1980. During this time frame, two types of occurrences have transpired that raise the need for a more formal process: (1) The Enterprises on some occasions adjusted their loan limits in a manner that is different from the survey results and (2) the Federal Housing Finance Board has made technical changes to its methodology for determining housing prices that the Enterprises have not reflected in their adjustments.

In 2006 and on three prior occasions, the average house price declined from October to October (in 1989, 1993, and 1994). In November 1989, the Enterprises reduced the 1990 conforming loan limit by $150 from the 1989 level based on a house price decline of 0.07 percent. In November 1993 and November 1994, however, the Enterprises announced that the conforming mortgage loan limit would remain constant at $203,150, despite two declines in house prices of 2.96 percent in 1993 and 1.46 percent in 1994 from the prior years. After housing prices increased from October 1994 to October 1995, the Enterprises raised the limit for 1996 without any adjustment for the previous declines.

Additionally, in November 1997, the Enterprises took another course, setting a lower number than the adjustment produced. They determined that the 1998 conforming loan limit would increase by only 3.67 percent, even though the percentage change in house prices using FHFB data for 1996–1997 was 8.44 percent. The practical effect of this action was to adjust for the 1993 and 1994 price declines.

There have been three occasions when the Federal Housing Finance Board made methodological changes to the Monthly Mortgage Interest Rate Survey that required an adjustment to one or both of the reference years, that is, the prior or current year's October calculation (in 1992, 1998, and 2003). In December 1992, the Enterprises determined that the 1993 conforming loan limit would increase 0.42 percent based on adjusted FHFB numbers for October 1991 and October 1992 national average one-family house price. In November 1998, the Enterprises determined that the 1999 conforming mortgage loan limit would increase by 5.66 percent based on an adjusted October 1997 house price survey. Therefore, in 1992 and again in 1998, the Enterprises used the adjusted national average one-family house price(s) provided by the FHFB.

In 2003, however, the Enterprises adopted a conforming loan limit that disregarded communications from the FHFB staff regarding a change in the methodology for estimating house prices. The Enterprises determined that the rise in the 2004 conforming loan limit would increase by 3.41 percent based on unadjusted national average house prices for October 2002 and October 2003. However, FHFB staff had indicated that the October 2003 national average house price should be adjusted downward by $1,647, a net increase of 2.71 percent.

Due to this inconsistent application of procedures for price declines and methodology changes, OFHEO issued a conforming loan limit guidance in 2004. To clarify elements of the existing guidance and to address the concerns around possible declines in the national average house price average, OFHEO announced in late 2006 that it would issue a new guidance to replace the 2004 issuance.

In 2006, the October national house price average declined by 0.16 percent from the previous October, which by the standard calculation would have reduced the maximum single family conforming loan limit from $417,000 to $416,300. OFHEO had previously indicated, however, that the effect of any decrease in the house price average would be deferred until the Fall 2007 calculation of the limits for the following year. OFHEO also stated that for the 2008 calculation, the decrease of 0.16 percent would be deducted from any increase in the average house price in the year ended October 2007 or, if the average price decreased, the loan limit would decrease by that amount. Left to be determined was how a further decline in 2008, if it occurred, would be treated and whether any existing loans would be grandfathered. The purpose of this guidance, that was subject to public notice and comment between June 20 and July 19, 2007, is to address these and related issues.

b. Preservation of Existing Authority

Nothing contained in this guidance prevents OFHEO from undertaking such supervisory or enforcement actions as may be necessary to meet its statutory obligations to oversee maintenance of safety and soundness and adequate capital.

II. Calculation of Conforming Loan Limit

a. General Procedures

(1) Consistent with statute, OFHEO will utilize the October MIRS survey data (routinely released in November) to calculate the conforming loan limit for the following calendar year.

(2) Under the terms of an inter-agency agreement, the FHFB will provide OFHEO with the confidential October survey data prior to its public release.

(3) OFHEO will calculate the percentage change in the average house price, make any adjustment needed to reflect FHFB technological changes and determine the new maximum conforming loan limit for the following year. The result of the calculation will be rounded downward, in line with existing practice, to the nearest $100, for marketplace convenience and administrative simplicity.

(4) Immediately following the FHFB's October MIRS announcement, OFHEO will announce the maximum level of the new conforming loan limit and simultaneously issue a letter with its determination to each Enterprise.

(5) Each Enterprise under its charter then determines whether to set the conforming loan limit at its institution at or below that level.

(6) The purchase of any mortgage above the limit by Fannie Mae or Freddie Mac will be considered an unsafe and unsound practice, running contrary to statute.

b. Procedures for Years in Which the House Price Level Declines

(1) In a year in which the October house price level is lower than the level of the previous October, OFHEO will defer the impact of that decline on the conforming loan limit for one full year. [The effect of the price level decline of 0.16 percent from October 2005 to October 2006 was deferred in this manner.]

(2) After deferring the impact of a decline in the average price level for one year:

(A) If the price level falls in the following year, the latter decline will be deferred one year, and the maximum loan limit will be adjusted by the decline of the former year;

(B) If the price level increases the following year, then the prior year's decline will be subtracted from such increase; or

(C) If the procedure in (A) or (B) would result in a decrease for any year in the maximum loan limit of less than three percent, that decrease will be deferred. In the following year, the amount deferred will be netted against any increase, or added to any decrease, that would otherwise be determined. If the calculation would result in a decrease of less than 3 percent, that decrease also will be deferred until fully employed to offset future increases or until the net decrease accumulates to 3 percent or more.

(3) All loans that were within the conforming loan limit at the time of origination will continue to be deemed within the conforming loan limit during the remaining lives of such loans, regardless of whether the loan limit for any subsequent year declines to a level below the limit at the time of origination.

c. Procedures for Adjustments and Technical Changes

(1) At any time during the year after a calculation has been made and the conforming loan limit set, if the FHFB revises the MIRS or any calculation, the Enterprises may provide comments to the FHFB for its consideration. Copies of any Enterprise comments should be provided contemporaneously to OFHEO.

(2) Once the FHFB has determined the nature, scope and timing of technical changes or adjustments, OFHEO will make adjustments to the next year's conforming loan limit based upon the procedures set forth in this Guidance.

III. Appendix

The following appendix provides examples of how a decline in the conforming loan limit would be implemented.

Examples of How Increases and Declines in House Prices Affect the Conforming Loan Limit Under OFHEO's Examination Guidance

The following examples reflect how declines and increases would be addressed in future years under the final Examination Guidance: *Conforming Loan Limit.*

Calculations:

In 2006, the conforming loan limit was $417,000. In 2006, the average house purchase price declined by 0.16 percent and this decline was deferred one year until the next calculation in November 2007 for the 2008 limits. OFHEO determined that declines always should be deferred a year and that they should accumulate to a three percent threshold before being implemented on the downside.

In November 2007,

(a) If the average house purchase price has gone up during the year, for example by 2 percent, the deferred decline of 0.16 percent would be subtracted, and the new loan limit beginning January 2008 would show an increase of 1.84 percent.

(b) If the average house purchase price has gone up during the year, for example by 0.10 percent, then the deferred decline would offset that 0.10 percent increase and a 0.06 percent% decline would be carried forward. The conforming loan limit would remain the same at $417,000.

(c) If the average house purchase price has gone down, the conforming loan limit will remain at $417,000 for 2008.

The deferred decline will be added to the 0.16 percent and carried forward until the next calculation in November 2008, as follows:

(i) If the average house purchase price goes up during 2008, the conforming loan limit will be calculated per (a) or (b) above with the offset being the cumulative deferred decline of 0.16 percent and the November 2007 decline;

(ii) If the average house purchase price goes down during 2008 and the cumulative deferred decline of 0.16 percent from 2006 and the decline from 2007 still total less than 3 percent, the conforming loan limit would remain at $417,000 in 2009; or,

(iii) If the average house purchase price goes down during 2008 and the cumulative deferred decline of 0.16 percent from 2006 and the decline from 2007 totals 3 percent or greater, then the conforming loan limit for 2009 will be adjusted downward by the 2006–2007 cumulative deferred decline.

[FR Doc. E7–20743 Filed 10–19–07; 8:45 am]

BILLING CODE 4220–01–P

DEPARTMENT OF THE INTERIOR

Geological Survey

National Cooperative Geologic Mapping Program (NCGMP) Advisory Committee

AGENCY: U.S. Geological Survey.

ACTION: Notice of meeting.

SUMMARY: Pursuant to Public Law 106–148, the NCGMP Advisory Committee will meet in Room 1787 of Building 25 at the Federal Center, Denver, CO.

The advisory Committee, composed of scientists from Federal Agencies, State Agencies, academic institutions, and private companies, will advise the Director of the U.S. Geological Survey on planning and implementation of the geologic mapping program.

Topics to be reviewed and discussed by the Advisory Committee include the:

- Progress of the NCGMP towards fulfilling the purposes of the National Geological Mapping Act of 1993
- Updates on the Federal, State, and educational components of the NCGMP
- Report from the Subcommittee on an implementation plan for the National Geological and Geophysical Data Preservation Program

DATES: November 1–2, 2007 commencing at 8:30 a.m. on November 1 and adjourning by 5 p.m. on November 2.

FOR FURTHER INFORMATION CONTACT: Laurel M. Bybell, U.S. Geological Survey, 908 National Center, Reston, Virginia 20192 (703) 648–5281.

SUPPLEMENTARY INFORMATION: Meetings of the National Cooperative Geological Mapping Program Advisory Committee are open to the Public.

Dated: October 16, 2007.

William H. Werkheiser,

Acting Associate Director for Geology, U.S. Geological Survey.

[FR Doc. 07–5189 Filed 10–19–07; 8:45 am]

BILLING CODE 4311–AM–M

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[CO–140–08–1610–DP]

Notice of Public Meeting, Northwest Colorado Resource Advisory Council Subcommittees for the Glenwood Springs and Kremmling Resource Management Plan Revisions

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of Public Meeting.

SUMMARY: In accordance with the Federal Land Policy and Management Act (FLPMA) and the Federal Advisory Committee Act of 1972 (FACA), the U.S. Department of the Interior, Bureau of Land Management (BLM) Northwest Colorado Resource Advisory Council (RAC) Subcommittees on the Glenwood Springs/Kremmling Resource Management Plan (RMP) Revisions will meet as indicated below.

DATES: November 7, 2007, from 5 p.m. to 7 p.m., Glenwood Springs Subcommittee; November 6, 2007, from 5 p.m. to 7 p.m., Kremmling Subcommittee.

ADDRESSES: The Glenwood Springs Subcommittee will meet at the Glenwood Springs Energy Office Conference Room, 2425 S. Grand Ave., Glenwood Springs, CO. The Kremmling Subcommittee will meet at the Kremmling Field Office, 2103 E. Park Ave., Kremmling, CO.

FOR FURTHER INFORMATION CONTACT: Joe Stout, Lead Planner, 2103 E. Park Ave., Kremmling, CO; telephone 970–724–3003; or Brian Hopkins, Planning and Environmental Coordinator, 50629 Hwy. 6 & 24, Glenwood Springs, CO, telephone 970–947–2840.

SUPPLEMENTARY INFORMATION: The Northwest Colorado RAC advises the Secretary of the Interior, through the Bureau of Land Management, on a variety of public land issues in northwestern Colorado. Two sub-committees have been formed under this RAC to advise it regarding the joint Glenwood Springs and Kremmling Field Offices' RMP Revisions. The individuals on each subcommittee represent a broad range of interests and have specific knowledge of the Field Offices. The Glenwood Springs subcommittee is comprised of up to 14 individuals and will focus on all aspects of the Glenwood Springs RMP Revision. The Kremmling Subcommittee is comprised of 10 individuals who will focus specifically on travel management and recreation issues for the Kremmling RMP Revision. Recommendations developed by these subcommittees will be presented formally for discussion to the NW RAC at publicly announced meetings of the full NW RAC.

Dated: October 15, 2007.

Jamie Connell,

Glenwood Springs Field Manager, Lead Designated Federal Officer for the Northwest Colorado RAC.

[FR Doc. 07–5210 Filed 10–19–07; 8:45 am]

BILLING CODE 4310–JB–M

DEPARTMENT OF THE INTERIOR

National Park Service

National Register of Historic Places;Notification of Pending Nominations and Related Actions

Nominations for the following properties being considered for listing or related actions in the National Register were received by the National Park Service before October 6, 2007. Pursuant to § 60.13 of 36 CFR part 60 written comments concerning the significance of these properties under the National Register criteria for evaluation may be forwarded by United States Postal Service, to the National Register of Historic Places, National Park Service, 1849 C St., NW., 2280, Washington, DC 20240; by all other carriers, National Register of Historic Places, National Park Service, 1201 Eye St. NW., 8th Floor, Washington, DC 20005; or by fax, 202–371–6447. Written or faxed comments should be submitted by November 6, 2007.

J. Paul Loether,

Chief, National Register of Historic Places/National Historic Landmarks Program.

ARIZONA

Maricopa County

University Park Historic District, Bounded by 13th St., Forest Ave, alley between Apache Blvd. & 14th St., Mc Allister Ave., Union Pacific RR & Mill Ave., Tempe, 07001174

ARKANSAS

Benton County

Van Winkle's Mill Site, 21392 E AR 12, Rogers, 07001175

CALIFORNIA

Alameda County

South Berkeley Community Church, 1802 Fairview St., Berkeley, 07001176

San Diego County, San Diego Armed Services YMCA, 500 W Broadway, San Diego, 07001177

DISTRICT OF COLUMBIA

District of Columbia

Montrose Park, R St. & Lovers' Ln. (Res. 324), Washington, 07001178

MISSISSIPPI

Bolivar County

Cleveland Founders Historic District, Roughly bounded by Victoria Ave., Sunflower Rd., Bolivar Ave., S Bayou Ave., & Avery St., Cleveland, 07001179

Hinds County

N & W Overall Company Building, 736 S President St., Jackson, 07001180

Lafayette County

North Lamar Historic District, Roughly bounded by N 11th, Price, N 16th & Van Buren Sts., Oxford, 07001181

Young, George Wright, House, 100 Cty. Rd. 233, Oxford, 07001182

Pike County

Spinks Plantation, ½ mi. N of jct. of Muddy Springs & Irene Rds., Magnolia, 07001183

Tishomingo County

Iuka Battlefield, N of MS 72, W of MS 25, Iuka, 07001184

MISSOURI

Greene County

Greene County Courthouse, 940 Boonville Ave., Springfield, 07001185

Jackson County

South Hyde Park Historic District, Bounded by E 39th St., Gillham Pkwy., Brush Creek Blvd. & Troost Ave., Kansas City, 07001186

NEBRASKA

Cuming County

Stigge, LaVerne and Helen, Farmstead, 785 4th Rd., Howells, 07001187

Douglas County

Peerless Motor Company, 2562—2564 Harney St., Omaha, 07001188

Stabrie Grocery, 501 N 13th St., Omaha, 07001189

Gage County

First Commercial Bank, 301 Main St., Odell, 07001190

NEW YORK

Erie County

Buffalo Harbor South Entrance Light (Light Stations of the United States MPS), Stony Pt. end of Buffalo Harbor S breakwater, Lackawanna, 07001191

Kings County

Evergreens Cemetery, 1629 Bushwick Ave., Brooklyn, 07001192

New York County

House at 49 East 80th Street, 49 E 80th St., New York, 07001193

PUERTO RICO

Rincon Municipality

Boiling Nuclear Superheater (BONUS) Reactor Facility, Punta Higuero Sector, PR 413, Rincon, 07001194

San Juan Municipality

Rivera, Luis Munoz, Park, Stop 8 Ponce de Leon Ave., San Juan, 07001195

TENNESSEE

Loudon County

Dunbar Public School, 113 Steekee St., Loudon, 07001196

WISCONSIN

Eau Claire County Eau Claire Masonic Temple, 317—319 S Barstow & 306 Main Sts., Eau Claire, 07001197

[FR Doc. E7–20685 Filed 10–19–07; 8:45 am]

BILLING CODE 4310–70–P

DEPARTMENT OF THE INTERIOR

Bureau of Reclamation

Environmental Water Account

AGENCY: Bureau of Reclamation, Interior.

ACTION: Notice of Availability and Notice of Public Hearings for the Draft

Supplemental Environmental Impact Statement/Environmental Impact Report to the Final Environmental Impact Statement/ Environmental Impact Report (Draft Supplemental EIS/EIR).

SUMMARY: The Bureau of Reclamation (Reclamation) is the National Environmental Policy Act Federal lead agency, and the U.S. Fish and Wildlife Service (Service) and National Marine Fisheries Service (NMFS) are the Federal Cooperating Agencies. The California Department of Water Resources (DWR) is the California Environmental Quality Act State lead agency, and the California Department of Fish and Game (DFG) is the State Responsible and Trustee Agency. Together, these five agencies have made the Draft Supplemental EIS/EIR available for public review and comment.

The Environmental Water Account (EWA) Program provides for fish protection and recovery in the San Francisco Bay/Sacramento-San Joaquin Delta while at the same time improving water supply reliability for Central Valley Project (CVP) and State Water Project (SWP) water users. The Draft Supplemental EIS/EIR addresses changes to the regulatory and physical environment that have occurred since completion of the Final EIS/EIR in January 2004 (FR Volume 69: 3599) and the Records of Decision in March 2004 and September 2004.

DATES: Public hearings will be held to discuss the purpose and content of the Draft Supplemental EIS/EIR and to provide the public an opportunity to comment on this draft environmental document. Written comments will also be accepted at the public hearings. The public hearings will be held as follows:

- Wednesday, November 14, 2007, 10 a.m. to 12 noon, Sacramento, CA.
- Thursday, November 15, 2007, 5 p.m. to 7 p.m., Los Banos, CA.

Written comments on the Draft Supplemental EIS/EIR must be submitted on or before December 10, 2007.

ADDRESSES: The public hearings will be held at the following locations:

- In Sacramento at the Federal Building, 2800 Cottage Way, Cafeteria Conference Rooms C–1001 and C–1002.
- In Los Banos at the Miller & Lux Building, Activity Room, 830 6th Street.

Written comments on the Draft Supplemental EIS/EIR should be addressed to Ms. Sammie Cervantes, Bureau of Reclamation, 2800 Cottage Way, Sacramento, CA 95825.

Copies of the Draft Supplemental EIS/EIR may be requested from Ms. Sammie Cervantes, by writing to Bureau of Reclamation, 2800 Cottage Way, Sacramento, CA 95825; by calling 916–978–5189 (TDD 916–978–5608); or by e-mailing *scervantes@mp.usbr.gov.* The Draft Supplemental EIS/EIR is also accessible from the following Web sites: *http://www.mp.usbr.gov* or *http://www.dwr.water.ca.gov.* See **SUPPLEMENTARY INFORMATION** section for locations where copies of the Draft Supplemental EIS/EIR are available for public review.

FOR FURTHER INFORMATION CONTACT: Ms. Sammie Cervantes, Bureau of Reclamation, at 916–978–5189 (TDD 916–978–5608) or *scervantes@mp.usbr.gov.*

SUPPLEMENTARY INFORMATION: The CVP and SWP facilities that pump water from the Delta can entrain and kill fish, some of which are Federally and State protected species. Reductions in CVP and SWP pumping to protect these fish species can reduce water supply reliability. The EWA Program includes Federal and State agencies making environmentally-beneficial changes in the operation of the CVP and SWP for Delta-dependent native fish species, and acquiring and managing water assets to pay back the water foregone by changes to the operation of the CVP and SWP. The Service, Reclamation, DWR, NMFS, and DFG collectively manage the EWA Program. The Service, NMFS, and DFG are responsible for recommending actions that protect and benefit Delta-dependent fish populations. Reclamation and DWR are responsible for acquiring water assets from willing sellers and storing, conveying, and delivering the assets to the CVP and SWP at appropriate times and locations.

The Draft Supplemental EIS/EIR documents the direct, indirect, and cumulative effects to the physical, natural, and socioeconomic environment that may result from the purchase, storage, and conveyance of EWA assets, and the actions taken to benefit Delta-dependent fish populations. The Draft Supplemental EIS/EIR is focused on an analysis of impacts to fisheries in the Delta because there have been multiple changes in the regulatory and physical environment since the Record of Decision was signed in September 2004.

Copies of the Draft Supplemental EIS/EIR are available for public review at the following locations:

- Bureau of Reclamation, Denver Office Library, Building 67, Room 167, Denver Federal Center, 6th and Kipling, Denver, Colorado 80225, 303–445–2072.
- Bureau of Reclamation, Mid-Pacific Region, Regional Library, 2800 Cottage Way, Sacramento, California 95825.
- California Bay-Delta Authority, 650 Capitol Mall, 5th Floor, Sacramento, California 95812.
- Department of Water Resources, Division of Environmental Services, 3251 S Street, Sacramento, California 95816.
- Natural Resources Library, U.S. Department of the Interior, 1849 C Street NW., Main Interior Building, Washington, DC 20240–0001.

If special assistance is required at the public hearings, please contact Ms. Sammie Cervantes at 916–978–5189, TDD 916–978–5608, or by e-mailing *scervantes@mp.usbr.gov.* Please notify Ms. Cervantes as far in advance as possible to enable Reclamation to secure the needed services. If a request cannot be honored, the requestor will be notified.

Before including your name, address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Dated: September 20, 2007.

John F. Davis,

Acting Regional Director, Mid-Pacific Region.

[FR Doc. 07–5188 Filed 10–19–07; 8:45 am]

BILLING CODE 4310–MN–P

INTERNATIONAL TRADE COMMISSION

[Investigation Nos. 731–TA–919 and 920 (Review)]

Certain Welded Large Diameter Line Pipe From Japan and Mexico

Determination

On the basis of the record [1] developed in the subject five-year reviews the United States International Trade Commission (Commission) determines, pursuant to section 751(c) of the Tariff Act of 1930 (19 U.S.C. 1675(c)), that revocation of the antidumping duty order on certain welded large diameter line pipe from Japan would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably

[1] The record is defined in sec. 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR § 207.2(f)).

foreseeable time[2] and that revocation of the antidumping duty order on certain welded large diameter line pipe from Mexico would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[3]

Background

The Commission instituted these reviews on November 1, 2006 (71 FR 64294) and determined on February 5, 2007 that it would conduct full reviews (72 FR 6746, February 13, 2007). Notice of the scheduling of the Commission's reviews and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the **Federal Register** on March 1, 2007 (72 FR 9357); a revised schedule was published on June 4, 2007 (72 FR 30832). The hearing was held in Washington, DC, on July 25, 2007, and all persons who requested the opportunity were permitted to appear in person or by counsel.

The Commission transmitted its determination in these reviews to the Secretary of Commerce on October 16, 2007. The views of the Commission are contained in USITC Publication 3953 (October 2007), entitled *Certain Welded Large Diameter Line Pipe from Japan and Mexico: Investigation Nos. 731–TA–919 and 920 (Review).*

By order of the Commission.
Issued: October 16, 2007.

William R. Bishop,

Acting Secretary to the Commission.

[FR Doc. E7–20672 Filed 10–19–07; 8:45 am]

BILLING CODE 7020–02–P

[2] Chairman Daniel R. Pearson and Commissioner Deanna Tanner Okun dissenting with respect to Japan.

[3] Commissioner Charlotte R. Lane dissenting with respect to Mexico.

DEPARTMENT OF JUSTICE

United States Parole Commission

Sunshine Act Meeting Notice

Public Announcement

Pursuant to the Government in the Sunshine Act (Public Law 94–409) [5 U.S.C. 552b]

AGENCY HOLDING MEETING: Department of Justice, United States Parole Commission.

TIME AND DATE: 10 a.m., Thursday, October 25, 2007.

PLACE: 5550 Friendship Blvd., Fourth Floor, Chevy Chase, MD 20815.

STATUS: Open.

MATTERS TO BE CONSIDERED: The following matters have been placed on the agenda for the *open* Parole Commission meeting:

1. Approval of Minutes of July 2007 Quarterly Business Meeting.

2. Reports from the Chairman, Commissioners, Chief of Staff, and Section Administrators.

3. Consideration of ''Evaluation and Re-Validation of the U.S. Parole Guidelines Risk Instrument'' by James Austin and Roger Ocker.

AGENCY CONTACT: Thomas W. Hutchison, Chief of Staff, United States Parole Commission, (301) 492–5990.

Dated: October 17, 2007.

Sharon A. Gervasoni,

Acting General Counsel, U.S. Parole Commission.

[FR Doc. 07–5219 Filed 10–18–07; 11:44 am]

BILLING CODE 4410–31–M

DEPARTMENT OF JUSTICE

United States Parole Commission

Sunshine Act Meeting Notice

Public Announcement

Pursuant to the government in the Sunshine Act (Pub. L. 94–409) [5 U.S.C. 552b]

AGENCY HOLDING MEETING: Department of Justice, United States Parole Commission.

DATE AND TIME: 11 a.m., Thursday, October 25, 2007.

PLACE: U.S. Parole Commission, 5550 Friendship Boulevard, 4th Floor, Chevy Chase, Maryland 20815.

STATUS: Closed.

MATTERS CONSIDERED: The following matters will be considered during the *closed* portion of the Commission's Business Meeting:

Petitions for reconsideration involving *three* original jurisdiction cases pursuant to 28 CFR 2.27.

AGENCY CONTACT: Thomas W. Hutchison, Chief of Staff, United States Parole Commission, (301) 492–5990.

Dated: October 17, 2007.

Sharon A. Gervasoni,

Acting General Counsel, U.S. Parole Commission.

[FR Doc. 07–5220 Filed 10–18–07; 11:44 am]

BILLING CODE 4410–31–M

DEPARTMENT OF LABOR

Employee Benefits Security Administration

Advisory Council on Employee Welfare and Pension Benefit Plans Working Group on Financial Literacy, Working Group on Participant Benefit Statements, and Working Group on Fiduciary Responsibilities Updates and Revenue Sharing; Notice of Meeting

Pursuant to the authority contained in Section 512 of the Employee Retirement Income Security Act of 1974 (ERISA), 29 U.S.C. 1142, a public meeting will be held on November 6, 2007 of the Working Groups assigned by the Advisory Council on Employee Welfare and Pension Benefit Plans to study the issues of (1) financial literacy, (2) participant benefit statements, and (3) fiduciary responsibilities updates and revenue sharing.

The sessions will take place in C5515 Room 3, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210. The purpose of the open meeting is for the Working Groups to conclude their report/recommendations to submit to the full Advisory Council. The meetings will start at 1 p.m. with the Working Group on Financial Literacy, followed by the Working Group on Participant Benefit Statements, followed by the Working Group on Fiduciary Responsibilities Updates and Revenue Sharing. The order is subject to change.

Organizations or members of the public wishing to submit a written statement pertaining to the topic may do so by submitting 25 copies on or before October 30, 2007 to Larry Good, Executive Secretary, ERISA Advisory Council, U.S. Department of Labor, Suite N–5623, 200 Constitution Avenue, NW., Washington, DC 20210. Statements also may be submitted electronically to *good.larry@dol.gov*. Statements received on or before October 30, 2007 will be included in the record of the meeting. Individuals or representatives of organizations wishing to address the Working Group should forward their requests to the Executive Secretary or telephone (202) 693–8668. Oral presentations will be limited to 10 minutes, time permitting, but an extended statement may be submitted for the record. Individuals with disabilities who need special accommodations should contact Larry Good by October 30 at the address indicated.

Signed at Washington, DC this 16th day of October, 2007.

Bradford P. Campbell,

Assistant Secretary, Employee Benefits Security Administration.

[FR Doc. E7–20721 Filed 10–19–07; 8:45 am]

BILLING CODE 4510–29–P

DEPARTMENT OF LABOR

Employee Benefits Security Administration

Advisory Council on Employee Welfare and Pension Benefit Plans, 140th Full Council Meeting; Notice of Meeting

Pursuant to the authority contained in Section 512 of the Employee Retirement Income Security Act of 1974 (ERISA), 29 U.S.C. 1142, the 140th open meeting of the full Advisory Council on Employee Welfare and Pension Benefit Plans will be held on November 7, 2007.

The meeting will run from 9 a.m. to approximately 4:30 p.m., with a break for lunch. The morning session will take place in C5515 Room 3, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210. The afternoon session will take place in Room S–2508 at the same address, beginning at 2 p.m. The purpose of the open meeting is for the chairpersons of the three Advisory Council Working Groups to submit their findings and recommendations on their individual study topics for the full Advisory Council's review and acceptance, following which the Advisory Council will present the Working Group findings and recommendations to the Secretary of Labor.

Organizations or members of the public wishing to submit a written statement pertaining to any topic under consideration by the Advisory Council may do so by submitting 25 copies to Larry Good, Executive Secretary, ERISA Advisory Council, U.S. Department of Labor, Room N–5623, 200 Constitution Avenue, NW., Washington, DC 20210. Statements received on or before October 31, 2007 will be included in the record of the meeting. Individuals or representatives of organizations wishing to address the Advisory Council should forward their request to the Executive Secretary at the above address or via telephone at (202) 693–8668. Oral presentations will be limited to 10 minutes, but an extended statement may be submitted for the record. Individuals with disabilities who need special accommodations should contact Larry Good by October 31 at the address indicated in this notice.

Signed at Washington, DC this 16th day of October, 2007.

Bradford P. Campbell,

Assistant Secretary, Employee Benefits Security Administration.

[FR Doc. E7–20722 Filed 10–19–07; 8:45 am]

BILLING CODE 4510–29–P

DEPARTMENT OF LABOR

Employment and Training Administration

[TA–W–62,129]

Alyeska Pipeline Service Company, Anchorage, AK; Notice of Termination of Investigation

Pursuant to section 221 of the Trade Act of 1974, as amended, an investigation was initiated on September 11, 2007 in response to a worker petition filed by a company official on behalf of workers of Alyeska Pipeline Services, Anchorage, Alaska.

The petitioner has requested that the petition be withdrawn. Consequently, the investigation has been terminated.

Signed at Washington, DC this 12th day of October 2007.

Richard Church,

Certifying Officer, Division of Trade Adjustment Assistance.

[FR Doc. E7–20728 Filed 10–19–07; 8:45 am]

BILLING CODE 4510–FN–P

DEPARTMENT OF LABOR

Employment and Training Administration

Investigations Regarding Certifications of Eligibility To Apply for Worker Adjustment Assistance and Alternative Trade Adjustment Assistance

Petitions have been filed with the Secretary of Labor under section 221 (a) of the Trade Act of 1974 (''the Act'') and are identified in the Appendix to this notice. Upon receipt of these petitions, the Director of the Division of Trade Adjustment Assistance, Employment and Training Administration, has instituted investigations pursuant to section 221(a) of the Act.

The purpose of each of the investigations is to determine whether the workers are eligible to apply for adjustment assistance under Title II, Chapter 2, of the Act. The investigations will further relate, as appropriate, to the determination of the date on which total or partial separations began or threatened to begin and the subdivision of the firm involved.

The petitioners or any other persons showing a substantial interest in the subject matter of the investigations may request a public hearing, provided such request is filed in writing with the Director, Division of Trade Adjustment Assistance, at the address shown below, not later than November 1, 2007.

Interested persons are invited to submit written comments regarding the subject matter of the investigations to the Director, Division of Trade Adjustment Assistance, at the address shown below, not later than November 1, 2007.

The petitions filed in this case are available for inspection at the Office of the Director, Division of Trade Adjustment Assistance, Employment and Training Administration, U.S. Department of Labor, Room C–5311, 200 Constitution Avenue, NW., Washington, DC 20210.

Signed at Washington, DC, this 16th day of October 2007.

Ralph DiBattista,

Director, Division of Trade Adjustment Assistance.

APPENDIX

[TAA petitions instituted between 10/9/07 and 10/12/07]

TA–W	Subject firm (Petitioners)	Location	Date of institution	Date of petition
62265	KLA–Tencor (Wkrs)	San Jose, CA	10/09/07	10/05/07
62266	Classic Die, Inc. (Wkrs)	Grand Rapids, MI	10/09/07	10/08/07
62267	Lamplight Farms (Comp)	Menomonee Falls, WI	10/09/07	10/08/07
62268	Dixie Consumer Products LLC (State)	Los Angeles, CA	10/09/07	09/11/07

APPENDIX—Continued

[TAA petitions instituted between 10/9/07 and 10/12/07]

TA–W	Subject firm (Petitioners)	Location	Date of institution	Date of petition
62269	Norwalk Furniture Corporation of Tennessee (Comp)	Cookeville, TN	10/09/07	10/05/07
62270	San Francisco City Lights (Wkrs)	San Francisco, CA	10/09/07	10/05/07
62271	Ravenwood Specialty Services, Inc. (USWA)	Ravenswood, WV	10/09/07	10/05/07
62272	Flint Group (State)	Plymouth, MI	10/09/07	10/01/07
62273	Delphi Corporation (USWA)	Dayton, OH	10/09/07	10/08/07
62274	Quebecor World (Wkrs)	Bensenville, IL	10/09/07	10/04/07
62275	Hubbell Power Systems, Inc. (Comp)	Clanton, AL	10/09/07	10/05/07
62276	F.L. Smithe Machine Company (IAMAW)	Hollidaysburg, PA	10/10/07	09/25/07
62277	Volt Technical Resources, LLC (Comp)	Loveland, CO	10/10/07	10/09/07
62278	GE Money (Wkrs)	Atlanta, GA	10/10/07	10/28/07
62279	Titan Tool (State)	Oakland, NJ	10/10/07	09/19/07
62280	UCO Spining LP (Comp)	Snyder, TX	10/10/07	10/09/07
62281	Auburn Investment Castings Inc. (Wkrs)	Auburn, AL	10/10/07	09/21/07
62282	National Starch and Chemical Company (Comp)	Island Falls, ME	10/10/07	10/05/07
62283	Cordis Corporation (State)	Miami Lakes, FL	10/11/07	10/10/07
62284	Parker Hannifin Corporation (Wkrs)	Eastlake, OH	10/11/07	10/03/07
62285	Carolina Textile Company, Inc. (Comp)	Dobson, NC	10/11/07	10/01/07
62286	Transco Products Corporation (Wkrs)	Linden, NJ	10/11/07	09/23/07
62287	Franklin Plastic Products, Inc. (Comp)	Franklin, IN	10/11/07	10/09/07
62288	Fiberweb (Comp)	Gray Court, SC	10/11/07	10/10/07
62289	Metal Powder Products (Wkrs)	St. Marys, PA	10/11/07	10/04/07
62290	Wachovia (Wkrs)	Charlotte, NC	10/11/07	10/09/07
62291	CompuMedics (State)	Charlotte, NC	10/11/07	10/10/07
62292	Storeroom Solutions, Inc. (State)	Little Rock, AR	10/12/07	10/11/07
62293	Truck Speciality Center (UAW)	Springfield, OH	10/12/07	10/12/07
62294	Allstar Pro LLC (Comp)	Downingtown, PA	10/12/07	10/10/07
62295	Temple-Inland Forest Products (State)	Hope, AR	10/12/07	10/11/07
62296	Delphi Corporation #1 (Comp)	Oak Creek, WI	10/12/07	10/03/07
62297	Delphi Corporation #2 (Comp)	Oak Creek, WI	10/12/07	10/10/07
62298	Delphi Corporation #3 (UAW)	Vandalia, OH	10/12/07	10/11/07
62299	GDX Automotive Inc. (State)	Batesville, AR	10/12/07	10/11/07
62300	General Electric Mattoon Lamp Plant (Comp)	Mattoon, IL	10/12/07	09/25/07

[FR Doc. E7–20724 Filed 10–19–07; 8:45 am]

BILLING CODE 4510–FN–P

DEPARTMENT OF LABOR

Employment and Training Administration

[TA–W–61,877]

Family Entertainment dba Sherwood Forest Family Golf, Conyers, GA; Notice of Negative Determination Regarding Application for Reconsideration

By application postmarked September 6, 2007, a petitioner requested administrative reconsideration of the Department's negative determination regarding eligibility for workers and former workers of the subject firm to apply for Trade Adjustment Assistance (TAA). The denial notice applicable to workers of Family Entertainment, dba Sherwood Forest Family Golf, Conyers, Georgia was signed on August 22, 2007 and published in the **Federal Register** on September 11, 2007 (72 FR 51845).

Pursuant to 29 CFR 90.18(c) reconsideration may be granted under the following circumstances:

(1) If it appears on the basis of facts not previously considered that the determination complained of was erroneous;

(2) If it appears that the determination complained of was based on a mistake in the determination of facts not previously considered; or

(3) If in the opinion of the Certifying Officer, a misinterpretation of facts or of the law justified reconsideration of the decision.

The TAA petition filed on behalf of workers at Family Entertainment, dba Sherwood Forest Family Golf, Conyers, Georgia engaged in activities related to the operation of an amusement park was denied because the petitioning workers did not produce an article within the meaning of section 222 of the Act.

The petitioner contends that the Department erred in its interpretation of work performed at the subject facility as ''activities related to operating an amusement park'' and further conveys that workers of the subject firm were not employees of the amusement park, but were rather workers of the Marketing Division.

A company official was contacted for clarification in regard to the nature of the work performed at the subject facility. The official stated that Family Entertainment, dba Sherwood Forest Family Golf, Conyers, Georgia operates an amusement park, where the following entertainment services are provided: putt-putt golf, a raceway of go-karts, bumper boats, bumper carts, batting cages and an arcade. The official clarified that Sherwood Forest does not use divisions and that employees of the subject firm ''work counters at golf desk or concessions, operate rides by taking tickets, administering instructions, assisting patrons into moving rides and monitoring throughout the length of the ride.''

The official further stated that two petitioning workers were hired as sales agents to try a new promotional program in August 2006. These employees sold Everything Goes passes and performed promotional activities for the amusement park by ''handing out flyers to whomever they choose to solicit.'' The official stated that even though these two workers were ''on foot advertising/promotional type employees'' and were not required to be stationary at the place of business, and were paid commission along with a

salary, they were employees of Sherwood Forest Family Golf and performed services supporting business and activities of the amusement park.

The petitioner further alleges that the petitioning workers ''produced and mass produced items such as flyers, pamphlets, guides, rule books, manuals, instruction sets'' etc. The petitioner stated that ''he was in charge of production strategies/marketing of many promotional items''.

The company official clarified that the petitioning workers ''in no way produced, created, designed nor mass produced'' any of the above mentioned articles for the subject firm. The official stated that Family Entertainment has a management team which completes all these tasks and that the petitioning workers were only in charge of the way they sold Everything Goes passes and distributed flyers.

To support his allegations, the petitioner enclosed a copy of the Georgia Department of Labor Unemployment Claims Examiner's Determination which states that the reason behind the petitioner's separation from the subject firm was a lack of work, and a stub reflecting information concerning the final unemployment check. For the purposes of this investigation, these documents do not contain any evidence that the workers of the subject firm created an article and that there was a shift in production of an article by the subject firm abroad.

The petitioner also enclosed various flyers, brochures, coupons, pass cards and promotional advertisements and stated that workers of the subject firm created and produced these articles.

The company official verified that these pass cards, coupons and advertisements were designed by the subject firm's previous manager and were prepared and sent to a professional local printing company. The official further confirmed that the rest of the promotional material was typed as a word document and printed on a computer printer by the administrative staff of either Family Entertainment or another domestic company, Atlanta Cutlery. The administrative employees of the subject firm continue to perform these functions to support and promote business activities of the amusement park.

The petitioner further alleges that the subject firm shifted production of the articles to India and ''the fact that these articles are no longer produced here is the reason that we are no longer employed''. To support these allegations, the petitioner enclosed copies of handwritten ''Weekly Sales Report'' and ''Business Contact Form'' stating that the workers performed telemarketing calls and that these tasks are now performed in India.

The company official stated that Family Entertainment dba Sherwood Forest did not shift any job functions to India and is not importing any articles from the foreign source. The official further stated that ''the only relation Family Entertainment has with India is the fact that it is owned by a U.S. Citizen from India'' and that the previous manager of the subject firm who is no longer affiliated with the company, resides in India with his family at the present time. The company official confirmed that the subject firm is in the business of entertainment services and whatever printed material might be designed or produced by the administrative staff of the subject firm as incidental to these services continues to be designed and produced by the subject firm or other domestic companies.

The company official further stated that the petitioning workers were separated from the subject firm after the management evaluated the promotional program and made a decision to discontinue the program due to low profitability.

In the request for reconsideration, the petitioner doubts the accuracy of the information provided by Family Entertainment.

The Department has no evidence that would suggest that the officials of the Family Entertainment had any reason to mislead the investigation or that they had any interest in the outcome of this determination that might have been adverse to the former employees of the subject firm.

Conclusion

After review of the application and investigative findings, I conclude that there has been no error or misinterpretation of the law or of the facts which would justify reconsideration of the Department of Labor's prior decision. Accordingly, the application is denied.

Signed at Washington, DC, this 16th day of October 2007.

Elliott S. Kushner,

Certifying Officer, Division of Trade Adjustment Assistance.

[FR Doc. E7–20726 Filed 10–19–07; 8:45 am]

BILLING CODE 4510–FN–P

DEPARTMENT OF LABOR

Employment and Training Administration

[TA–W–62,190]

Steelcase Incorporated Grand Rapids, Michigan; Notice of Termination of Investigation

Pursuant to section 221 of the Trade Act of 1974, as amended, an investigation was initiated on September 24, 2007 in response to a petition filed by a company official on behalf of workers at Steelcase Incorporated, Grand Rapids, Michigan.

The petitioner has requested that the petition be withdrawn. Consequently, the investigation has been terminated.

Signed in Washington, DC, this 12th day of October 2007.

Linda G. Poole,

Certifying Officer, Division of Trade Adjustment Assistance.

[FR Doc. E7–20723 Filed 10–19–07; 8:45 am]

BILLING CODE 4510–FN–P

DEPARTMENT OF LABOR

Employment and Training Administration

[TA–W–62,053]

Sunrise Medical, Incorporated Devilbiss Healthcare Including On-Site Leased Workers of Kelly Services Somerset, PA; Amended Certification Regarding Eligibility To Apply for Worker Adjustment Assistance and Alternative Trade Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 (19 U.S.C. 2273), and section 246 of the Trade Act of 1974 (26 U.S.C. 2813), as amended, the Department of Labor issued a Certification of Eligibility to Apply for Worker Adjustment Assistance and Alternative Trade Adjustment Assistance on October 10, 2007, applicable to workers of Sunrise Medical, Incorporated, Devilbiss Healthcare, Somerset, Pennsylvania. The notice will be published soon in the **Federal Register**.

At the request of the State agency, the Department reviewed the certification for workers of the subject firm. The workers are engaged in the production of respiratory care products, such as compressor nebulizers, oxygen concentrators and aspirators.

The review of the investigation record shows that the Department inadvertently excluded from the certification on-site leased workers from

Kelly Services. Accordingly, the Department is amending this certification to include on-site leased workers from Kelly Services.

The amended notice applicable to TA–W–62,053 is hereby issued as follows:

All workers of Sunrise Medical, Incorporated, Devilbiss Healthcare, including on-site leased workers of Kelly Services, Somerset, Pennsylvania, who became totally or partially separated from employment on or after August 27, 2006, through October 10, 2009, are eligible to apply for adjustment assistance under Section 223 of the Trade Act of 1974, and are also eligible to apply for alternative trade adjustment assistance under Section 246 of the Trade Act of 1974.

Signed at Washington, DC, this 17th day of October 2007.

Linda G. Poole,

Certifying Officer, Division of Trade Adjustment Assistance.

[FR Doc. E7–20727 Filed 10–19–07; 8:45 am]

BILLING CODE 4510–FN–P

DEPARTMENT OF LABOR

Employment and Training Administration

[TA–W–61,530]

Track Corporation Including On-Site Leased Workers of Forge Industrial Spring Lake, Michigan; Notice of Revised Determination on Reconsideration

On June 18, 2007, the Department of Labor (Department) issued a Negative Determination Regarding Eligibility to Apply for Worker Adjustment Assistance and Alternative Trade Adjustment Assistance applicable to the Trade Adjustment Assistance (TAA) and Alternative Trade Adjustment Assistance (ATAA) petition filed by a company official on behalf of workers and former workers of Track Corporation, Spring Lake, Michigan (subject firm). The Department's Notice of negative determination was published in the **Federal Register** on July 9, 2007 (72 FR 37266). The subject firm produces seat adjusters for the automotive industry and public seating for stadiums and theaters. Workers are separately identifiable by product line. The TAA/ATAA petition was filed on behalf of workers engaged in the production of seat adjusters.

The negative determination was based on the Department's findings that the subject firm did not shift production of seat adjusters abroad and does not import seat adjusters. A survey revealed that the subject firm's major customer did not import seat adjusters during the relevant period.

By letter dated July 16, 2007, a company official requested administrative reconsideration of the Department's negative determination. The request for reconsideration stated that the subject firm's major customer replaced subject firm purchases with imported seat adjusters.

During the reconsideration investigation, the Department carefully reviewed the administrative file, contacted the company official for clarification, and contacted the subject firm's major customer for more information about its import purchases.

Previously-submitted information revealed that subject firm sales, production, and employment levels declined during the relevant period. Information obtained during the reconsideration investigation revealed that the subject firm's major customer began using foreign-made seat adjusters in 2006 and replacing subject firm purchases with foreign-made seat adjusters during 2007.

In accordance with section 246 the Trade Act of 1974 (26 U.S.C. 2813), as amended, the Department herein presents the results of its investigation regarding certification of eligibility to apply for ATAA. The Department has determined in this case that the group eligibility requirements of section 246 have been met.

A significant number of workers at the firm are age 50 or over. Workers possess skills that are not easily transferable. Competitive conditions within the industry are adverse.

Conclusion

After careful review of the information obtained in the initial and reconsideration investigations, I determine that the subject workers are adversely-impacted by increased imports of articles like or directly competitive with those produced at the subject firm. In accordance with the provisions of the Act, I make the following certification:

All workers of Track Corporation, including on-site workers of Forge Industrial, Spring Lake, Michigan, engaged in the production of seat adjusters, who became totally or partially separated from employment on or after May 16, 2006 through two years from the date of this certification, are eligible to apply for adjustment assistance under section 223 of the Trade Act of 1974, and are eligible to apply for alternative trade adjustment assistance under section 246 of the Trade Act of 1974.

Signed at Washington, DC this 23rd day of August 2007.

Elliott S. Kushner,

Certifying Officer, Division of Trade Adjustment Assistance.

[FR Doc. E7–20725 Filed 10–19–07; 8:45 am]

BILLING CODE 4510–FN–P

MORRIS K. UDALL SCHOLARSHIP AND EXCELLENCE IN NATIONAL ENVIRONMENTAL POLICY FOUNDATION

Request for Comment on Draft Convening Report Regarding Negotiated Rulemaking and Bureau of Indian Affairs Funded School Facilities Repair, Renovation, & Construction

AGENCY: United States Institute for Environmental Conflict Resolution, Morris K. Udall Foundation.

ACTION: Notice of draft convening report and request for comment.

SUMMARY: The U.S. Institute for Environmental Conflict Resolution invites comments on its draft convening report regarding Department of the Interior's (DOI) Bureau of Indian Affairs (BIA)-funded school facilities construction as identified in the No Child Left Behind Act of 2001 (NCLB Act). The draft report was prepared at the request of the DOI, BIA, and Bureau of Indian Education (BIE). Such a convening report is described generally in the Negotiated Rulemaking Act of 1996, Pub. L. 104–320, section 563(b).

As a neutral, independent federal program, the U.S. Institute and its impartial contractor team, Consensus Building Institute (CBI) conducted two-hundred (200) interviews of people with an interest in BIA-funded school facilities construction. The purpose of the interviews was to explore the opportunities for, and barriers to, using negotiated rulemaking to develop regulations implementing the requirements of the NCLB Act related to BIA-funded school facilities. The draft report covers school facility topics identified from the NCLB Act:

- Methods to catalog school facilities;
- Determining formulas for priority and funding for school replacement construction and new construction
- Determining formulas for priority and funding for school renovation and repair;
- Facilities standards for home living (dormitory) situations.

In the draft report, CBI identified several key themes from its interviews:

- There is a strong willingness to go forward with a negotiated rulemaking, as it is required by statute.

• Interviewees were supportive of negotiating to improve the fairness, efficiency and transparency of the funding formulas for all aspects of school facilities funding

• There is a need to integrate the formal negotiation with less formal methods of consulting with the tribes who will not have seats at the table. CBI suggests a national workshop for all tribes with school facilities as part of the preparation for the negotiation process. This workshop could help identify options for the negotiating committee to work with.

• Representation of the tribes on the negotiating committee is required by the NCLB Act to be roughly proportional to the percent of students each tribe has in the system. For the majority of tribes (i.e. beyond the top eleven for student population), there will need to be a process for sharing seats or otherwise developing representation structures.

The draft convening report may be accessed at *http://www.cbuilding.org.* and at *http://www.ecr.gov.* This notice invites interested individuals, organizations and governments to review and offer comments that focus on the findings and recommendations presented draft convening report.

DATES: Please submit comments on or before December 22, 2007.

ADDRESSES: You may submit comments by any of the following methods:

• *E-mail: bie@cbuilding.org.*

• *Fax:* 1–617–492–1919.

• *Mail:* Consensus Building Institute; Attn: BIE Convening Draft Report Comment, 238 Main Street, Suite 400, Cambridge, MA 02142.

FOR FURTHER INFORMATION CONTACT: Patrick Field, Consensus Building Institute, 238 Main Street, Suite 400, Cambridge, MA 02142, (617) 492–1414 x118, *pfield@cbuilding.org*; Sarah Palmer, Senior Program Manager, U.S. Institute for Environmental Conflict Resolution, 130 S. Scott Avenue, Tucson, AZ 85701, phone (520) 901–8556, fax (520) 901–8557, *palmer@ecr.gov*; Michele F. Singer, Director, Office of Regulatory Management, Office of the Assistant Secretary, Indian Affairs, 1001 Indian School Road, NW., Albuquerque, NM 87104, phone (505) 563–5415, fax (505) 563–3811, *michele_f_singer@ios.doi.gov.*

SUPPLEMENTARY INFORMATION:

Background

The No Child Left Behind Act (NCLB Act) requires the Department of the Interior to use procedures set out in the Negotiated Rulemaking Act of 1996, Pub. L. 104–320, Section 563 when developing regulations to implement the NCLB Act's provisions regarding schools operated or funded by the BIA. BIA has used negotiated rulemaking to address six (6) of the seven (7) regulations required under the NCLB Act. DOI and BIA want to assess the feasibility of using the negotiated rulemaking process to develop the final rule, dealing with school construction and repair.

In the fall of 2006 DOI sought assistance with this effort from the U.S. Institute, an independent impartial government entity with expertise in convening, assessment and alternative dispute resolution processes. In accordance with its statutory authority, the 1998 Environmental Policy and Conflict Resolution Act (Pub. L. 105–156, codified at 20 U.S.C. 5601 et seq.), the U.S. Institute conducted a convening assessment. For more information on the U.S. Institute, please visit *http://www.ecr.gov.*

The U.S. Institute contracted with an independent, impartial convening team, the Consensus Building Institute (CBI), to carry out interviews and prepare a draft convening report. The scope of the draft convening report includes views on school facility topics identified from the NCLB Act and the opportunities of and barriers to negotiated rulemaking. To understand the range of perspectives on or interests in these topics, the convening team conducted 200 confidential interviews with tribal officials or their designees, representatives of BIA-funded or grant-funded tribal schools, and others with an interest in Bureau-funded school facilities construction on the following:

• Interviewees' views on the substantive issues listed above;

• Suggestions for how diverse geographic, size, and tribal interests can best be represented on a Negotiated Rulemaking Committee;

• Any concerns or barriers to the establishment of and successful execution of a Negotiated Rulemaking Committee on these topics; and

• Consultative activities and potential approaches to consultation that the Bureau might undertake regarding these issues.

The draft convening report reflects CBI findings and preliminary recommendations to DOI, BIA, and BIE based on these interviews. The draft report will be made available to all interviewees for comment. Upon receipt of comments, CBI and the U.S. Institute will consider all comments and prepare a final report for the Department of the Interior, Bureau of Indian Affairs and Bureau of Indian Education. All comments received on the draft will be made available to DOI, BIA, and BIE. The final report will also be made available to the interviewees, all interested tribes, and the general public via a Web site link.

Authority: 20 U.S.C. 5601 *et seq.*

Dated: October 16, 2007.

Christopher L. Helms,

Executive Director, Morris K. Udall Scholarship and Excellence in National Environmental Policy Foundation.

[FR Doc. 07–5187 Filed 10–19–07; 8:45 am]

BILLING CODE 6870–FN–M

NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

Information Security Oversight Office

National Industrial Security Program Policy Advisory Committee: Notice of Meeting

In accordance with the Federal Advisory Committee Act (5 U.S.C. app 2) and implementing regulation 41 CFR 101.6, announcement is made for the following committee meeting:

Name of Committee: National Industrial Security Program Policy Advisory Committee (NISPPAC).

Date of Meeting: November 15, 2007.

Time of Meeting: 10 am–12 noon.

Place of Meeting: National Archives and Records Administration, 700 Pennsylvania Avenue, NW., Archivist's Reception Room, Room 105, Washington, DC 20408.

Purpose: To discuss National Industrial Security Program policy matters.

This meeting will be open to the public. However, due to space limitations and access procedures, the name and telephone number of individuals planning to attend must be submitted to the Information Security Oversight Office (ISOO) no later than Monday, October 29, 2007. ISOO will provide additional instructions for gaining access to the location of the meeting.

For Further Information Contact: Patrick Viscuso, Senior Program Analyst, Information Security Oversight Office, National Archives Building, 700 Pennsylvania Avenue, Washington, DC 20408, telephone number (202) 357–5313.

Dated: October 16, 2007.

Mary Ann Hadyka,

Committee Management Officer.

[FR Doc. E7–20698 Filed 10–19–07; 8:45 am]

BILLING CODE 7515–01–P

NATIONAL CREDIT UNION ADMINISTRATION

Notice of Meeting

TIME AND DATE: 10 a.m., Thursday, October 25, 2007.

PLACE: Board Room, 7th Floor, Room 7047, 1775 Duke Street, Alexandria, VA 22314–3428.

STATUS: Open.

MATTERS TO BE CONSIDERED:

1. Quarterly Insurance Fund Report.
2. Board Briefing: Part 717 of NCUA's Rules and Regulations, Interagency Final Rule and Guidelines on Identity Theft Red Flags and Address Discrepancies.
3. Board Briefing: Part 717 of NCUA's Rules and Regulations, Interagency Final Rule on Affiliate Marketing.
4. Final Rule: Section 701.2 of NCUA's Rules and Regulations, Federal Credit Union Bylaws.

RECESS: 11 a.m.

TIME AND DATE: 11:15 a.m., Thursday, October 25, 2007.

PLACE: Board Room, 7th Floor, Room 7047, 1775 Duke Street, Alexandria, VA 22314–3428.

STATUS: Closed.

MATTERS TO BE CONSIDERED:

1. One (1) Merger Application under Parts 704 and 708b of NCUA's Rules and Regulations. Closed pursuant to Exemption (8).
2. One (1) Insurance Appeal. Closed pursuant to Exemption (6).

FOR FURTHER INFORMATION CONTACT: Mary Rupp, Secretary of the Board, Telephone: 703–518–6304.

Mary Rupp,

Secretary of the Board.

[FR Doc. 07–5230 Filed 10–18–07; 3:18 pm]

BILLING CODE 7535–01–M

NATIONAL SCIENCE FOUNDATION

Notice of Permits Issued Under the Antarctic Conservation Act of 1978

AGENCY: National Science Foundation.

ACTION: Notice of permits issued under the Antarctic Conservation of 1978, Public Law 95–541.

SUMMARY: The National Science Foundation (NSF) is required to publish notice of permits issued under the Antarctic Conservation Act of 1978. This is the required notice.

FOR FURTHER INFORMATION CONTACT: Nadene G. Kennedy, Permit Office, Office of Polar Programs, Rm. 755, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230.

SUPPLEMENTARY INFORMATION: On September 7, 2007 and September 13, 2007, the National Science Foundation published notices in the **Federal Register** of permit applications received. Permits were issued on October 16, 2007 to:

Juan Lopez-Bautista, Permit No. 2008–018

Sam Feola, Permit No. 2008–019

William R. Fraser, Permit No. 2008–020

Nadene G. Kennedy,

Permit Officer.

[FR Doc. E7–20668 Filed 10–19–07; 8:45 am]

BILLING CODE 7555–01–P

NEIGHBORHOOD REINVESTMENT CORPORATION

Neighborworks® America Regular Board of Directors Meeting; Sunshine Act

TIME AND DATE: 2 p.m., Wednesday, October 24, 2007.

PLACE: 1325 G Street, NW., Suite 800, Boardroom, Washington, DC 20005.

STATUS: Open.

CONTACT PERSON FOR MORE INFORMATION: Erica Hall, Assistant Corporate Secretary, (202) 220–2376; *ehall@nw.org.*

AGENDA:

I. Call to Order.
II. Approval of the Minutes.
III. Summary Report of the Finance, Budget and Program Committee.
IV. Summary Report of the Audit Committee.
V. Summary Report of the Audit Committee.
VI. Summary Report of the Corporate Administration Committee.
VII. Financial Report.
VIII. Corporate Scorecard.
IX. Chief Executive Officer's Quarterly Management Report.
X. Field Operations Presentation.
Adjournment.

Erica L. Hall

Assistant Corporate Secretary.

[FR Doc. 07–5225 Filed 10–18–07; 2:12 pm]

BILLING CODE 7570–02–M

NUCLEAR REGULATORY COMMISSION

[Docket No. 50–458]

Entergy Operations, Inc.; Notice of Withdrawal of Application for Amendment to Facility Operating License

The U.S. Nuclear Regulatory Commission (the Commission) has granted the request of Entergy Operations, Inc., (the licensee) to withdraw its September 13, 2007, application for a proposed amendment to Facility Operating License No. NPF–47 for the River Bend Station, Unit 1, located in West Feliciana Parish, Louisiana.

The proposed amendment would have revised the facility Technical Specifications and the operating license. The proposed change would have added a License Condition 2.C to the Facility Operating License NPF–47 that allows River Bend Station, Unit 1, Technical Specifications surveillance intervals to be extended on a one-time basis for the 14th Fuel Cycle to account for the effects of a delayed refueling outage.

The Commission had previously issued a Notice of Consideration of Issuance of Amendment published in the **Federal Register** on October 9, 2007 (72 FR 57354). However, by letter dated October 3, 2007, the licensee withdrew the proposed change.

For further details with respect to this action, see the application for amendment dated September 13, 2007, and the licensee's letter dated October 3, 2007, which withdrew the application for license amendment. Documents may be examined, and/or copied for a fee, at the NRC(s Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the internet at the NRC Web site, *http://www.nrc.gov/reading-rm.html.* Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1–800–397–4209, or 301–415–4737 or by e-mail to *pdr@nrc.gov.*

Dated at Rockville, Maryland, this 15th day of October 2007.

For the Nuclear Regulatory Commission.

Bhalchandra Vaidya,

Project Manager, Plant Licensing Branch IV, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation.

[FR Doc. E7–20738 Filed 10–19–07; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

[Docket No. 40–9027]

Notice of Availability of Final Environmental Assessment and Finding of No Significant Impact for Cabot Corporation Proposed Decommissioning Plan for Site in Reading, PA

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of availability and finding of no significant impact.

SUMMARY: Notice is hereby given that the U.S. Nuclear Regulatory Commission (NRC) is issuing a final Environmental Assessment (EA) for Cabot Corporation (Cabot or the licensee) Decommissioning Plan (DP), dated August 21, 2006, which requested authorization to commence decommissioning activities to achieve unrestricted release of a site in Reading, Pennsylvania. The final EA makes a finding of no significant impact (FONSI) for the proposed action, and is being issued as part of the NRC's decision-making process on whether to issue an amendment to license SMC–1562, pursuant to Title 10 of the U.S. Code of Federal Regulations Part 40, ''Domestic Licensing of Source Material Licenses.'' The proposed DP specifies installation of a riprap erosion barrier on the site slope. The site is owned by the City of Reading and is located in a large redevelopment area. Tentative City plans are for industrial activities in a new structure to be built on top of the slope, adjacent to the Cabot site. The site itself will not be developed.

FOR FURTHER INFORMATION CONTACT: Theodore Smith, Project Manager, Reactor Decommissioning Branch, Division of Waste Management and Environmental Protection, Mail Stop T8–F5, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001. Telephone: (301) 415–6721; e-mail: *tbs1@nrc.gov.*

SUPPLEMENTARY INFORMATION:

I. Introduction

Cabot Corporation (Cabot) holds U.S. Nuclear Regulatory Commission (NRC) Source Materials License SMC–1562, allowing the storage of radioactive materials at Cabot's Reading, Pennsylvania, site. Former ore processing in the 1960s at the facility generated waste slag contaminated with uranium and thorium. A smaller amount of debris from facility decontamination was added to the site in the late 1970s. In the 1980s, Cabot began onsite decommissioning activities at the main processing building at its Reading site, and began preparing for decommissioning activities at Reading site slag pile by conducting site characterization, determining slag leach rate constants, taking surface gamma measurements, and performing radiological analysis of surface and subsurface samples. Contaminated areas of the main building area were remediated in a series of cleanup actions in the early 1990s. Cabot originally submitted the decommissioning plan (DP) in 1998 and has revised it several times to address various NRC concerns. On August 21, 2006, Cabot submitted Revision 4 of its proposed DP which proposes installation of a riprap erosion barrier at the site. The NRC has prepared an environmental assessment (EA) in support of this action in accordance with the requirements of 10 CFR part 51. Based on the EA, the NRC has concluded that a Finding of No Significant Impact is appropriate. If approved, the license amendment incorporating the DP would be issued following publication of this Notice.

II. EA Summary

The Proposed Action

Cabot requested approval of its DP, which would allow it to conduct decommissioning activities at the site. If approved and properly implemented, the DP would eventually lead to the termination of its NRC source materials license. In its DP, Cabot proposed to place a riprap erosion cover on the slag pile's slope and provided analysis to demonstrate that the site will be acceptable for license termination under unrestricted release.

Need for the Proposed Action

The purpose of this action is to decommission an NRC-licensed site, allowing for its unrestricted use and termination of the source material license. This action is required by 10 CFR 40.42, ''Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas.''

Environmental Impacts of the Proposed Action

The NRC staff concluded that the proposed decommissioning activities will not result in a significant impact to the environment. No significant impacts to the site ecology are anticipated because of the proposed action. The proposed action will not adversely affect Federal or State-listed threatened or endangered species, or regional historic and cultural resources. The proposed action can be viewed as a continuation of impacts and can be evaluated based on the previous impacts from past operations. In making this determination, the staff considered impacts to such areas as public and occupational health, transportation, socioeconomics, ecology, water quality, and the effects of natural phenomena. Further details regarding the staff's environmental evaluation of the proposed action are set forth in the EA (ML072390296)

Agencies and Persons Consulted

The staff completed consultations with the U.S. Fish and Wildlife Service (FWS) for consideration under Section 7 of the Endangered Species Act and with the Pennsylvania State Historic Preservation Office (SHPO) for consideration under Section 106 of the National Historic Preservation Act. In addition the staff provided the draft EA to the Pennsylvania Department of Environmental Protection (PADEP) officials for comment. An addendum to the final EA sets forth the PADEP comments and the NRC's responses, and provides a history of operations at the site.

III. Finding of No Significant Impact

The final EA supports the proposed action to issue a license amendment approving Cabot's DP for the Reading site. On the basis of this EA, NRC has concluded that there are no significant environmental impacts from the proposed action, and that preparation of an Environmental Impact Statement is not warranted. Accordingly, it has been determined that a Finding of No Significant Impact is appropriate.

IV. Further Information

Documents related to this action, including the application for amendment and supporting documentation, are available electronically at the NRC's Electronic Reading Room at *http://www.nrc.gov/reading-rm/adams.html.* From this site, you can access the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. The ADAMS accession numbers for the documents related to this notice are:

Documents	ADAMS Accession Nos.
Licensee Decommissioning Plan	ML062360159, ML062360164, ML062640081, ML062210261.
PADEP consultation	ML070880408, ML072390482.

Documents	ADAMS Accession Nos.
SHPO consultation	ML070430115, ML071240260, ML071450487, ML072220371.
FWS consultation	ML06026123 , ML060730519.
Environmental Assessment	ML072390323, ML072390296.

If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC's Public Document Room (PDR) Reference staff at 1–800–397–4209, 301–415–4737, or by e-mail to *pdr@nrc.gov*.

These documents may also be viewed electronically on the public computers located at the NRC's PDR, O1–F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee.

Dated at Rockville, Maryland, this 12th day of October 2007.

For the Nuclear Regulatory Commission.

Andrew Persinko,

Branch Chief, Reactor Decommissioning Branch, Division of Waste Management and Environmental Protection, Office of Federal and State Materials and Environmental Management Programs.

[FR Doc. E7–20746 Filed 10–19–07; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

[Docket No. 50–382]

Entergy Operations, Inc.; Waterford Steam Electric Station, Unit 3 Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of exemptions from Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.46 and Appendix K, for Facility Operating License No. NPF–38, issued to Entergy Operations, Inc. (Entergy, the licensee), for operation of the Waterford Steam Electric Station, Unit 3 (Waterford 3), located in St. Charles Parish, Louisiana. Therefore, as required by 10 CFR 51.21, the NRC is issuing this environmental assessment and finding of no significant impact.

Environmental Assessment

Identification of the Proposed Action

The proposed action would exempt the licensee from the requirements of 10 CFR part 50, section 50.46 and Appendix K to allow the use of Optimized ZIRLO™ fuel rod cladding as the allowable fuel rod cladding material. The proposed action is in accordance with Entergy's application dated April 24, 2007.

The Need for the Proposed Action

The NRC's regulations in 10 CFR part 50, section 50.46 and Appendix K, make no provision for use of fuel rod clad in a material other than Zircaloy or ZIRLO™. Optimized ZIRLO™ has a lower tin content than either Zircaloy or ZIRLO™; therefore, use of Optimized ZIRLO™ fuel rod clad calls for an exemption from 10 CFR part 50, section 50.46 and Appendix K.

For cladding with a lower tin content, corrosive resistance has been found to improve, as indicated by available industry data from the American Nuclear Society, the International Atomic Energy Agency, the Electric Power Research Institute, and Westinghouse Electric Corporation. The optimum tin level provides a reduced corrosion rate while maintaining the benefits of mechanical strength and resistance to accelerated corrosion from abnormal chemistry conditions. In addition, fuel rod internal pressures (resulting from increased fuel duty, use of integral fuel burnable absorbers and corrosion/temperature feedback effects) have become more limiting with respect to fuel rod design criteria. Reducing the associated corrosion buildup, and thus, minimizing temperature feedback effects, provides additional margin to fuel rod internal pressure design criteria. The NRC previously granted a similar exemption in July 2004 for Waterford 3 for use of Optimized ZIRLO™ in four lead-test assemblies.

Environmental Impacts of the Proposed Action

The NRC staff has completed its safety evaluation of the proposed action and concludes that the proposed exemptions would continue to satisfy the underlying purpose of 10 CFR part 50, sections 50.46 and Appendix K, and will not increase the probability or consequences of accidents previously analyzed and would not affect facility radiation levels or facility radiological effluents.

The details of the staff's safety evaluation will be provided in the exemption that will be issued as part of the letter to the licensee approving the amendment to the regulation.

The proposed action will not significantly increase the probability or consequences of accidents. No changes are being made in the types of effluents that may be released off site. There is no significant increase in the amount of any effluent released off site. There is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential non-radiological impacts, the proposed action does not have a potential to affect any historic sites. It does not affect non-radiological plant effluents and has no other environmental impact. Therefore, there are no significant non-radiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

Environmental Impacts of the Alternatives to the Proposed Action

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the ''no-action'' alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the ''no-action'' alternative are similar.

Alternative Use of Resources

The action does not involve the use of any different resources than those previously considered in the Final Environmental Statement for Waterford 3, dated September 1981.

Agencies and Persons Consulted

In accordance with its stated policy, on August 17, 2007, the staff consulted with the Louisiana State official, Ms. Nan Calhoun of the Louisiana Department of Environmental Quality, regarding the environmental impact of the proposed action. The State official had no comments.

Finding of No Significant Impact

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the

NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated April 24, 2007. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Public File Area O1F21, 1555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site: *http://www.nrc.gov/reading-rm/adams.html*. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1–800–397–4209 or 301–415–4737, or send an e-mail to *pdr@nrc.gov*.

Dated at Rockville, Maryland, this 25th day of September 2007.

For the Nuclear Regulatory Commission.

Nageswaran Kalyanam,

Project Manager, Plant Licensing Branch IV, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation.

[FR Doc. E7–20731 Filed 10–19–07; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

[Docket No. 030–31988]

Notice of Availability of Environmental Assessment and Finding of No Significant Impact for Termination of Byproduct Materials License No. 04–29022–01 and Unrestricted Release of the Department of Commerce, National Oceanic and Atmospheric Administration's Facility in La Jolla, California

AGENCY: Nuclear Regulatory Commission.

ACTION: Issuance of environmental assessment and finding of no Significant impact for license amendment.

FOR FURTHER INFORMATION CONTACT: Jack E. Whitten, Chief, Nuclear Materials Safety Branch B, Division of Nuclear Materials Safety, Region IV, U.S. Nuclear Regulatory Commission, Arlington, Texas 76011; telephone (817) 860–8197; fax number (817) 860–8263; or by e-mail: *jew1@nrc.gov*.

SUPPLEMENTARY INFORMATION:

I. Introduction

The U.S. Nuclear Regulatory Commission (NRC) is considering the issuance of a license amendment to Byproduct Material License No. 04–29022–01. This license is held by the United States Department of Commerce, National Oceanic and Atmospheric Administration, Southwest Fisheries Science Center (the Licensee). Issuance of the amendment would authorize release of the La Jolla Facility (the Facility) for unrestricted use and termination of the NRC license. The licensee requested this action in a letter dated February 27, 2007. The NRC has prepared an Environmental Assessment (EA) in support of this proposed action in accordance with the requirements of Title 10, Code of Federal Regulations (CFR), Part 51 (10 CFR part 51). Based on the EA, the NRC has concluded that a Finding of No Significant Impact (FONSI) is appropriate with respect to the proposed action. The amendment will be issued to the Licensee following the publication of this FONSI and EA in the **Federal Register**.

II. Environmental Assessment

Identification of Proposed Action

The proposed action would approve the Licensee's February 27, 2007, license amendment request, resulting in release of the Facility for unrestricted use and termination of its NRC materials license. License No. 04–29022–01 was issued on January 23, 1991, pursuant to 10 CFR part 30, and has been amended periodically since that time. The license authorized the Licensee to use unsealed byproduct material for laboratory tracer studies.

The license allowed the Licensee to use radioactive material at both the Southwest Fisheries Science Center and on any NOAA research ship (or any other ship with an agreement with NOAA) at temporary jobsites at sea. The Southwest Fisheries Science Center is located in a commercial area. Within the Facility, use of licensed materials was confined to one room in the building.

During 2005, the Licensee ceased licensed activities and initiated a survey and decontamination of the Facility. The license also required the Licensee to certify the decontamination of every research ship upon completion of each research project using radioactive material. Based on the Licensee's historical knowledge of the site and the conditions of the Facility, the Licensee determined that only routine decontamination activities, in accordance with their radiation safety procedures, were required. The Licensee was not required to submit a decommissioning plan to the NRC. The Licensee conducted surveys of the Facility and provided information to the NRC to demonstrate that it meets the criteria in Subpart E of 10 CFR part 20 for unrestricted release and license termination.

Need for the Proposed Action

The Licensee has ceased conducting licensed activities at the Facility and seeks the unrestricted use of its Facility and the termination of its NRC materials license. Termination of its license would end the Licensee's obligation to pay annual license fees to the NRC.

Environmental Impacts of the Proposed Action

The historical review of licensed activities conducted at the Facility shows that such activities involved the use of one radionuclide with a half-life of greater than 120 days: carbon-14. Prior to performing the final status survey, the Licensee conducted decontamination activities, as necessary, in the areas of the Facility affected by these radionuclides.

The Licensee conducted a final status survey during January 2007. This survey covered the remaining room (D–229) where radioactive material had been used and stored. The final status survey report was attached to the Licensee's amendment request dated February 27, 2007. The Licensee elected to demonstrate compliance with the radiological criteria for unrestricted release as specified in 10 CFR 20.1402 by using the screening approach described in NUREG–1757, ''Consolidated NMSS Decommissioning Guidance,'' Volume 2. The Licensee elected to use a fraction of the radionuclide-specific derived concentration guideline levels (DCGLs), developed by the NRC, which comply with the dose criterion in 10 CFR 20.1402. These DCGLs define the maximum amount of residual radioactivity on building surfaces, equipment, and materials and in soils that will satisfy the NRC requirements in Subpart E of 10 CFR part 20 for unrestricted release. The Licensee's final status survey results were below these DCGLs, and are thus acceptable.

Based on its review, the staff has determined that the affected environment and any environmental impacts associated with the proposed action are bounded by the impacts evaluated by the ''Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities'' (NUREG–1496) Volumes 1–3 (ML042310492,

ML042320379, and ML042330385). Further, no incidents were recorded involving spills or releases of radioactive material at the Facility. Accordingly, there were no significant environmental impacts from the use of radioactive material at the Facility. The NRC staff reviewed the docket file records and the final status survey report to identify any non-radiological hazards that may have impacted the environment surrounding the Facility. No such hazards or impacts to the environment were identified.

The NRC staff finds that the proposed release of the Facility for unrestricted use and the termination of the NRC materials license is in compliance with 10 CFR 20.1402. The NRC has found no other activities in the area that could result in cumulative environmental impacts. Based on its review, the staff considered the impact of the residual radioactivity at the Facility and concluded that the proposed action will not have a significant effect on the quality of the human environment.

Environmental Impacts of the Alternatives to the Proposed Action

Alternatives to the proposed action discussed below are: (1) The no-action alternative; or (2) require the Licensee to take some alternate action.

1. *No-action Alternative:* As an alternative to the proposed action, the staff could leave things as they are by simply denying the amendment request. This no-action alternative is not feasible because it conflicts with 10 CFR 30.36(d), requiring that decommissioning of byproduct material facilities be completed and approved by the NRC after licensed activities cease. Additionally, this denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the no-action alternative are therefore similar, and the no-action alternative is accordingly not further considered.

2. *Environmental Impacts of Alternative 2:* A second alternative to the proposed action would be to deny the Licensee's request and instead apply alternate release criteria pursuant to either 10 CFR 20.1403 (criteria for license termination under restricted release) or 10 CFR 20.1404 (alternate criteria for license termination). However, the NRC's analysis of the Licensee's final status survey data confirmed that the Facility meets the requirements of 10 CFR 20.1402 for unrestricted release. Accordingly, the NRC finds that choosing this second alternative to the proposed action is not reasonable, and this alternative is eliminated from further consideration.

Conclusion

The NRC staff has concluded that the proposed action is consistent with the NRC's unrestricted release criteria specified in 10 CFR 20.1402. Because the proposed action will not significantly impact the quality of the human environment, the NRC staff concludes that the proposed action is the preferred alternative.

Agencies and Persons Consulted

NRC provided a draft of this EA to the California Department of Health Services for review on August 22, 2007. No comments were received from the State of California.

The NRC staff has determined that the proposed action is of a procedural nature and will not affect listed species or critical habitat. Therefore, no further consultation is required under Section 7 of the Endangered Species Act. The NRC staff has also determined that the proposed action is not the type of activity that has the potential to cause effects on historic properties. Therefore, no further consultation is required under Section 106 of the National Historic Preservation Act.

III. Finding of No Significant Impact

The NRC staff has prepared this EA in support of the proposed action. On the basis of this EA, the NRC finds that there are no significant environmental impacts from the proposed action, and that preparation of an environmental impact statement is not warranted. Accordingly, the NRC has determined that a Finding of No Significant Impact is appropriate.

IV. Further Information

Documents related to this action, including the application for license amendment and supporting documentation, are available electronically at the NRC's Electronic Reading Room at *http://www.nrc.gov/reading-rm/adams.html*. From this site, you can access the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. The documents related to this action are listed below, along with their ADAMS accession numbers.

1. **Federal Register** Notice, Volume 65, No. 114, page 37186, dated Tuesday, June 13, 2000, ''Use of Screening Values to Demonstrate Compliance With The Federal Rule on Radiological Criteria for License Termination'';

2. Title 10 Code of Federal Regulations, Part 20, Subpart E, ''Radiological Criteria for License Termination'';

3. Title 10, Code of Federal Regulations, Part 51, ''Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions'';

4. NUREG–1496, ''Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities,'' July 1997 (ML042310492, ML042320379, and ML042330385);

5. NUREG–1757, Volume 1, ''Consolidated NMSS Decommissioning Guidance,'' Revision 2, September 2006 (ML063000243);

6. NUREG–1757, Volume 2, ''Consolidated NMSS Decommissioning Guidance,'' Revision 1, September 2006 (ML063000252);

7. Bartoo, Norm W., ''NRC Radioactive Materials License #04–2902201'' (Notification of Intent to Terminate License), January 11, 2007 (ML070390552); and

8. Fox, William W., ''NRC Radioactive Materials License #04–29022–01'' (Submission of Final Status Survey Report), February 27, 2007 (ML070710043).

If you do not have access to ADAMS, or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) reference staff at 1–800–397–4209, 301–415–4737, or by e-mail to *pdr@nrc.gov*. These documents may also be viewed electronically on the public computers located at the NRC's PDR, O 1 F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee.

Dated at Region IV Office this 11th day of October 2007.

For the Nuclear Regulatory Commission.

Jack E. Whitten,

Chief, Nuclear Materials Safety Branch B, Division of Nuclear Materials Safety, Region IV.

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NUCLEAR REGULATORY COMMISSION

[Docket No. 50–354]

PSEG Nuclear, LLC; Hope Creek Generating Station Draft Environmental Assessment and Finding of No Significant Impact Related to the Proposed License Amendment To Increase the Maximum Reactor Power Level

AGENCY: U.S. Nuclear Regulatory Commission (NRC).

SUMMARY: The NRC has prepared a draft Environmental Assessment (EA) as its evaluation of a request by the PSEG Nuclear, LLC (PSEG) for license amendments to increase the maximum thermal power at Hope Creek Generating Station (HCGS) from 3,339 megawatts-thermal (MWt) to 3,840 MWt. The EA assesses environmental impacts up to a maximum thermal power level of 3,952 MWt, as the applicant's environmental report was based on that power level. As stated in the NRC staff's position paper dated February 8, 1996, on the Boiling-Water Reactor (BWR) Extended Power Uprate (EPU) Program, the NRC staff would prepare an environmental impact statement if it believes a power uprate would have a significant impact on the human environment. The NRC staff did not identify any significant impact from the information provided in the licensee's EPU application for HCGS or from the NRC staff's independent review; therefore, the NRC staff is documenting its environmental review in an EA. The draft EA and Finding of No Significant Impact are being published in the **Federal Register** with a 30-day public comment period.

Environmental Assessment

Plant Site and Environs

HCGS is located on the southern part of Artificial Island, on the east bank of the Delaware River, in Lower Alloways Creek Township, Salem County, New Jersey. While called Artificial Island, the site is actually connected to the mainland of New Jersey by a strip of tideland, formed by hydraulic fill from dredging operations on the Delaware River by the U.S. Army Corps of Engineers. The site is 15 miles south of the Delaware Memorial Bridge, 18 miles south of Wilmington, Delaware, 30 miles southwest of Philadelphia, Pennsylvania, and 7.5 miles southwest of Salem, New Jersey. The station is located on a 300-acre site.

The site is located in the southern region of the Delaware River Valley, which is defined as the area immediately adjacent to the Delaware River and extending from Trenton to Cape May Point, New Jersey, on the eastern side, and from Morrisville, Pennsylvania, to Lewes, Delaware, on the western side. This region is characterized by extensive tidal marshlands and low-lying meadowlands. Most land in this area is undeveloped. A great deal of land adjacent to the Delaware River, near the site, is public land, owned by the Federal and State governments. The main access to the plant is from a road constructed by PSEG. This road connects with Alloways Creek Neck Road, about 2.5 miles, east of the site. Access to the plant site and all activities thereon are under the control of PSEG.

Identification of the Proposed Action

HCGS is a single unit plant that employs a General Electric BWR that was designed to operate at a rated core thermal power of 3,339 MWt, at 100-percent steam flow, with a turbine-generated rating of approximately 1,139 megawatts-electric (MWe).

In 1984, NRC issued operating license NPF–57 to HCGS, authorizing operation up to a maximum power level of 3,293 MWt. In 2001, NRC authorized a license amendment for a 1.4 percent power uprate from 3,293 MWt to 3,339 MWt and issued an Environmental Assessment and Finding of No Significant Impact for Increase in Allowable Thermal Power Level (NRC 2001).

By letter dated September 18, 2006, PSEG proposed an amendment to the operating license for HCGS, to increase the maximum thermal power level by approximately 15 percent, from 3,339 MWt to 3,840 MWt. The change is considered an EPU because it would raise the reactor core power levels more than 7 percent above the originally licensed maximum power level. According to the licensee, the proposed action would involve installation of a higher efficiency turbine and an increase in the heat output of the reactor. This would increase turbine inlet flow requirements and increase the heat dissipated by the condenser to support increased turbine exhaust steam flow requirements. In the turbine portion of the heat cycle, increases in the turbine throttle pressure and steam flow would result in a small increase in the heat rejected to the cooling tower and the temperature of the water being discharged into the Delaware River. In addition, there would be an increase in the particulate air emission and an increase in the contaminants that are in the blowdown water discharge.

The Need for the Proposed Action

PSEG (2005) evaluated the need for additional electrical generation capacity in its service area for the planning period of 2002–2011. Information provided by the North American Electric Reliability Council showed that, in order to meet projected demands, generating capacity must be increased by at least 2 percent per year for the Mid-Atlantic Area Council and the PJM Interconnection, LLC (PSEG 2005). Such demand increase would exceed PSEG's capacity to generate electricity for its customers.

PSEG determined that a combination of increased power generation and purchase of power from the electrical grid would be needed to meet the projected demands. Increasing the generating capacity at HCGS was estimated to provide lower-cost power than can be purchased on the current and projected energy market. In addition, increasing nuclear generating capacity would lessen the need to depend on fossil fuel alternatives that are subject to unpredictable cost fluctuations and increasing environmental costs.

Environmental Impacts of the Proposed Action

At the time of issuance of the operating license for HCGS, the NRC staff noted that any activity authorized by the license would be encompassed by the overall action evaluated in the Final Environmental Statement (FES) for the operation of HCGS that was issued by the NRC in December 1984 (NRC 1984). This EA summarizes the non-radiological and radiological impacts that may result from the proposed action.

Non-Radiological Impacts

Land Use Impacts

The potential impacts associated with land use (including aesthetics and historic and archaeological resources) include impacts from construction and plant modifications at HCGS. While some plant components would be modified, most plant changes related to the proposed EPU would occur within existing structures, buildings, and fenced equipment yards housing major components within the developed part of the site. No new construction would occur, and no expansion of buildings, roads, parking lots, equipment storage areas, or transmission facilities would be required to support the proposed EPU (PSEG 2005).

Existing parking lots, road access, offices, workshops, warehouses, and restrooms would be used during

construction and plant modifications. Therefore, land use would not change at HCGS. In addition, there would be no land use changes along transmission lines (no new lines would be required for the proposed EPU), transmission corridors, switchyards, or substations. Because land use conditions would not change at HCGS and because any disturbance would occur within previously disturbed areas, there would be no impact to aesthetic resources and historic and archeological resources in the vicinity of HCGS (PSEG 2005).

The Coastal Zone Management Act (CZMA) was promulgated to encourage and assist States and territories in developing management programs that preserve, protect, develop, and, where possible, restore the resources of the coastal zone. A ''coastal zone'' is generally described as the coastal waters and the adjacent shore lands strongly influenced by each other. This includes islands, transitional and intertidal areas, salt marshes, wetlands, beaches, and Great Lakes waters. Activities of Federal agencies that are reasonably likely to affect coastal zones shall be consistent with the approved coastal management program (CMP) of the State or territory to the maximum extent practical. The CZMA provisions apply to all actions requiring Federal approval (new plant licenses, license renewals, materials licenses, and major amendments to existing licenses) that affect the coastal zone in a State or territory with a Federally approved CMP. On April 23, 2007, PSEG submitted an application requesting the State of New Jersey to perform the Federal consistency determination in accordance with CZMA. On July 3, 2007, the New Jersey Department of Environmental Protection (NJDEP) Land Use Regulation Program, acting under Section 307 of the Federal Coastal Management Act, agreed with the certification that the EPU is consistent with the approved New Jersey Coastal Management Program.

The impacts of continued operation of HCGS under EPU conditions are bounded by the evaluation in the FES for operation (NRC 1984). Therefore, the potential impacts to land use, aesthetics, and historic and archaeological resources from the proposed EPU would not be significant.

Cooling Tower Impacts

HCGS has one natural draft cooling tower that is currently used to reduce the heat output to the environment. The potential impacts associated with cooling tower operation under the proposed EPU could affect aesthetics, salt drift deposition, noise, fogging or icing, wildlife, and particulate emissions.

The proposed EPU would not result in significant changes to aesthetics such as cooling tower plume dimension at HCGS. Atmospheric emissions from the natural draft cooling tower consist primarily of waste heat and water vapor resulting in persistent cloudlike plumes. The size of the cooling tower plume depends on the meteorological conditions such as temperature, dew point, and relative humidity. For the proposed EPU, NRC does not anticipate any change in the dimension of the plume under equivalent meteorological conditions as evaluated in the FES. Therefore, the NRC staff concludes that there would be no significant aesthetic impacts associated with HCGS cooling tower operation for the proposed action.

Native, exotic, and agricultural plant productivity may be adversely affected by the increased salt concentration in the drift deposited directly on soils or directly on foliage. FES has indicated that the salt drift deposition must be above 90 lbs/acre/year before agriculture plant productivity would be reduced. PSEG has estimated that the proposed EPU would not significantly increase the rate of salt drift deposition from the increase in cooling tower operation. PSEG has estimated that the increase in salt drift deposition rate would be 9 percent to a maximum of 0.109 lbs/acre/year. Therefore, the NRC staff concludes that there would be no significant salt drift deposition impacts associated with HCGS cooling tower operation for the proposed action.

Because the HCGS cooling tower is natural draft, no increase in noise is expected. Therefore, the NRC staff concludes that there would be no significant noise impacts associated with HCGS cooling tower operation for the proposed action.

PSEG has indicated that there would be no significant increase in fogging or icing expected for the proposed EPU. Increased ground-level fogging and icing resulting from water droplets in the cooling tower drift may interfere with highway traffic. The 1984 FES evaluated the impacts of fogging and icing associated with the operation of the natural draft cooling tower at HCGS and found these impacts to be insignificant and inconsequential. The fact that the nearest agricultural or residential land is located several miles from the site further minimizes the potential for impact. Therefore, the NRC staff concludes that there would be no significant fogging or icing impacts associated with HCGS cooling tower operation for the proposed action.

The 1984 FES has stated that although some birds may collide with cooling tower, unpublished surveys at existing cooling towers indicated that the number would be relatively small. The proposed EPU would not increase the risk of wildlife colliding with cooling tower. Therefore, the NRC staff concludes that there would be no significant wildlife impacts associated with HCGS cooling tower operation for the proposed action.

The proposed EPU would increase the particulates emission rate from the HCGS cooling tower, from the current rate of 29.4 pounds per hour (lbs/hr) to an average rate of 35.6 lbs/hr (maximum 42.0 lbs/hr). Particulates (primarily salts) from the cooling tower have an aerodynamic particle size of less than 10 microns in diameter (PM10). The NJDEP has imposed a maximum hourly emission rate for particulates at 30 lbs/hr. Therefore, the projected particulate emission rate from the HCGS cooling tower, due to the proposed EPU, would exceed the NJDEP emission regulatory limit. On March 30, 2007, NJDEP issued a Public Notice and Draft Title V Air Operating Permit for the HCGS cooling tower, proposing to authorize a variance to the HCGS air operating permit with an hourly emission rate of 42 lbs/hr (NJDEP 2007a). On June 13, 2007, NJDEP issued the final Title V Air Operating Permit for HCGS allowing a 42 lbs/hr particulate emission rate for the proposed EPU.

Since particulates from HCGS cooling tower consist primarily of salts with particle size of less than 10 microns, the FES evaluated the environmental impacts on air quality and found the impacts to be minor. Furthermore, a prevention of significant deterioration (PSD) non-applicability analysis was submitted to the U.S. Environmental Protection Agency (EPA)

Region 2, by PSEG on March 4, 2004. Based on the information provided by PSEG, EPA concluded that the EPU project would not result in a significant increase in emissions and would not be subject to PSD review (NJDEP 2007a). In addition, NJDEP has stated that the Bureau of Technical Services reviewed the Air Quality Modeling for the proposed Hope Creek uprate project and determined that the project would meet the National Ambient Air Quality Standards and the New Jersey Ambient Air Quality Standards. Therefore, the NRC staff concludes that there would be no significant particulate emission impacts associated with HCGS cooling tower operation for the proposed action.

Transmission Facility Impacts

The potential impacts associated with transmission facilities include changes in transmission line right-of-way (ROW) maintenance and electric shock hazards due to increased current. The proposed EPU would not require any physical modifications to the transmission lines.

PSEG's transmission line ROW maintenance practices, including the management of vegetation growth, would not change. PSEG did not provide an estimate of the increase in the operating voltage due to the EPU. Based on experience from EPUs at other plants, the NRC staff concludes that the increase in the operating voltage would be negligible. Because the voltage would not change significantly, there would be no significant change in the potential for electric shock. Modifications to onsite transmission equipment are necessary to support the EPU; such changes include replacement of the high- and low-pressure turbines, and the replacement of the main transformer (PSEG 2005). No long-term environmental impacts from these replacements are anticipated.

The proposed EPU would increase the current, which would affect the electromagnetic field. The National Electric Safety Code (NESC) provides design criteria that limit hazards from steady-state currents. The NESC limits the short-circuit current to the ground to less than 5 milliamperes. There would be an increase in current passing through the transmission lines associated with the increased power level of the proposed EPU. The increased electrical current passing through the transmission lines would cause an increase in electromagnetic field strength. However, since the increase in power level is approximately 15 percent, the impact of exposure to electromagnetic fields from the offsite transmission lines would not be expected to increase significantly over the current impact. The transmission lines meet the applicable shock prevention provision of the NESC. Therefore, even with the slight increase in current attributable to the EPU, adequate protection is provided against hazards from electrical shock.

The 1984 FES evaluated bird mortality resulting from collision with towers and conductors. The FES has estimated that only 0.07 percent of the mortality of waterfowls from causes other than hunting resulted from collision with towers and conductors at HCGS. Because the proposed EPU does not require physical modifications to the transmission line system, the additional impacts of bird mortality would be minimal.

The impacts associated with transmission facilities for the proposed action would not change significantly relative to the impacts from current plant operation. There would be no physical modifications to the transmission lines, transmission line ROW maintenance practices would not change, there would be no changes to transmission line ROW or vertical ground clearances, and electric current passing through the transmission lines would increase only slightly. Therefore, the NRC staff concludes there would be no significant impacts associated with transmission facilities for the proposed action.

Water Use Impacts

Potential water use impacts from the proposed EPU include localized effects on the Delaware Estuary and changes to plant water supply. HCGS is located on the eastern shore of the Delaware Estuary. The estuary is approximately 2.5 miles wide, and the tidal flow past HCGS is approximately 259,000 million gallons per day (MGD) (NRC 2001). The Delaware Estuary is the source of cooling water for the HCGS circulating water system, a closed-cycle system that utilizes a natural draft cooling tower. During normal plant operations, water usage at HCGS accounts for less than 0.03 percent of the average tidal flow of the Delaware Estuary (PSEG 2005).

HCGS's service water system withdraws approximately 67 MGD from the Delaware Estuary for cooling and makeup water. When estuary water temperature is less than 70 degrees Fahrenheit (°F), two pumps operate to supply an average service water flow rate of approximately 37,000 gallon per minute (gpm). When estuary water temperature is greater than 70 °F, three pumps operate to supply an average service water flow rate of approximately 52,000 gpm (Najarian Associates 2004). Estuary water is delivered to the cooling tower basin and acts primarily as makeup water to the circulating water system—replacing 47 MGD that are returned to the estuary as cooling tower blowdown, and depending upon meteorological conditions and the circulating water flow rate, replacing approximately 10–13 MGD of cooling water that are lost through evaporation from the cooling tower. Approximately 7 MGD of the 67 MGD are used for intake screen wash water and strainer backwash. The circulating water system has an operating capacity of 11 million gallons; however, approximately 9 million gallons of water actually reside in the circulating water system at any given time. Water is re-circulated through the condensers at a rate of approximately 550,000 gpm (PSEG 2005). No changes to the HCGS circulating water or service water systems are expected due to the proposed EPU; therefore, the proposed EPU would not increase the amount of water withdrawn from or discharged to the Delaware Estuary.

Consumptive use of surface water by HCGS is not expected to change substantively as a result of the proposed EPU and is regulated by the Delaware River Basin Commission (DRBC) through a water use contract. The proposed EPU would likely result in a small increase in cooling tower blowdown temperature. To mitigate this temperature increase, PSEG has modified its cooling tower to improve its thermal performance, and as discussed in the following section, thermal discharge to the Delaware Estuary would remain within the regulatory limits set by the New Jersey Pollutant Discharge Elimination System (NJPDES) permit granted to HCGS by NJDEP (PSEG 2005; NJDEP 2002).

Two groundwater wells access the Raritan aquifer to provide domestic and process water to HCGS. The wells are permitted by NJDEP and are also regulated by DRBC. The proposed EPU would not increase the use of groundwater by HCGS or change the limits of groundwater use currently set by DRBC (PSEG 2005). As such, the conclusions in the 1984 FES regarding groundwater use at HCGS would remain valid for the proposed EPU.

The proposed EPU would not increase the amount of surface water withdrawn from the Delaware Estuary and groundwater use at HCGS would not increase. Therefore, the NRC staff concludes the proposed EPU would have negligible water use impacts on the estuary.

Discharge Impacts

Potential impacts to a water body from power plant discharge include increased turbidity, scouring, erosion, sedimentation, contamination, and water temperature. Because the proposed EPU would not increase the amount of cooling tower blowdown discharged to the Delaware Estuary, turbidity, scouring, erosion, and sedimentation would not be expected to significantly impact the estuary. Additionally, the proposed EPU would not introduce any new contaminants to the Delaware Estuary and would not significantly increase any potential contaminants that are presently regulated by the station's NJPDES permit. The concentration of total dissolved solids (TDS) in the cooling tower blowdown would increase due to

the increased rate of evaporation; however, the amount of blowdown discharged to the estuary would decrease, and the concentration of TDS would remain within the station's NJPDES permit limits.

Although the amount of water withdrawn from the Delaware Estuary would remain unchanged, the proposed EPU would result in a slight increase in the temperature of the cooling tower blowdown discharged to the estuary. The station's NJPDES permit imposes limits on the temperature of the blowdown and the amount of heat rejected to the estuary by the HCGS circulating water system. The NJDES permit specifies that the 24-hour average maximum blowdown temperature is limited to 97.1 °F, and heat rejection is limited to 662 million British thermal units per hour (MBTU/hr) from September 1 through May 31 and 534 MBTU/hr from June 1 through August 31. DRBC also imposes thermal regulations on HCGS through the NJPDES permit, specifying that the net temperature increase of the Delaware Estuary may not exceed 4 °F from September through May, and 1.5 °F from June through August or estuary water temperature may not exceed a maximum of 86 °F, whichever is less. These limitations apply to waters outside of the heat dissipation area, which extends 2,500 feet upstream and downstream of the discharge point and 1,500 feet offshore from the discharge point. The NJPDES permit provides an exception for occasional excess blowdown temperatures during extreme meteorological conditions (a coincident occurrence of a wet-bulb temperature above 76 °F and relative humidity below 60 percent); however, the net temperature limitations may never be exceeded (Najarian Associates 2004).

The 1984 FES concluded that the station's shoreline discharge would not adversely affect the estuary because of its large tidal influence, which would dilute, mix, and rapidly dissipate the heated effluent (PSEG 2005). Hydrothermal modeling conducted for the proposed EPU determined that, even during extreme meteorological conditions, the post-EPU increase in cooling tower blowdown temperature would not exceed 91.7 °F, and the station would continue to comply with all applicable Delaware Estuary water quality standards set by the station's NJPDES permit and DRBC (Najarian Associates 2004).

In addition to setting thermal discharge limits, the NJPDES permit also regulates all surface and wastewater discharges from the station. The NJPDES permit, effective March 1, 2003, regulates discharge from six outfalls at HCGS, including the cooling tower blowdown, low volume oily wastewater, stormwater, and sewage treatment; these discharges ultimately flow to the Delaware Estuary. As required by the NJPDES permit, in addition to temperature, cooling tower blowdown is monitored for flow, pH, chlorine produced oxidants (CPOs), total suspended solids, TDS, and total organic carbon. HCGS operates a dechlorination system that utilizes ammonium bisulfate to reduce CPOs in the blowdown. Furthermore, acute and chronic biological toxicity tests were routinely performed on cooling tower blowdown from 1998 through 2001 to comply with NJDEP non-toxicity regulations (PSEG 2005).

The NJPDES permit sets monitoring, sampling, and reporting requirements for all HCGS discharges. A search of the NJDEP *Open Public Records Act Datamine* online database revealed no water quality violations for HCGS (NJDEP 2007).

With the exception of increased blowdown temperature and TDS concentration, as discussed above, the proposed EPU would not be expected to alter the composition or volume of any other effluents, including stormwater drainage, oily water, and sewage treatment (PSEG 2005). Blowdown temperature and composition, and Delaware Estuary water temperatures would remain in compliance with the station's NJPDES permit, and the proposed EPU would not result in changes in any other effluents to the estuary. Therefore, the NRC staff concludes that the proposed EPU would result in negligible impacts on the Delaware Estuary from HCGS discharge.

Impacts on Aquatic Biota

The potential impacts to aquatic biota from the proposed action are primarily due to operation of the cooling water system and to maintenance of transmission line ROWs. Cooling water withdrawal affects aquatic populations through impingement of larger individuals (e.g., fish, some crustaceans, turtles) on the intake trash bars and debris screens and entrainment of smaller organisms that pass through the screens into the cooling water system. The proposed action would not change the volume or rate of cooling water withdrawn. Most of the additional heat generated under the proposed EPU would be dissipated by the cooling tower, and PSEG proposes no changes to the cooling water system.

Discharge of heated effluent alters natural thermal and current regimes and can induce thermal shock in aquatic organisms. The HCGS effluent would change under the proposed EPU. Because the volume of makeup water withdrawn from the estuary would remain unchanged and the volume of evaporative loss from the cooling tower would increase, the volume of the blowdown released as effluent, which is the difference between the water withdrawn and the water lost to evaporation, would decrease. The increased evaporation would leave behind more solids in the blowdown, so the concentration of TDS in the effluent would be an average of about 9 percent higher than under current operations (Najarian Associates 2004). The effluent would also be somewhat warmer, but modeling predicts that all present NJPDES permit conditions for the effluent would still be met (Najarian Associates 2004).

PSEG proposes no new transmission line ROWs and no change in current maintenance procedures for transmission line ROWs under the proposed EPU, so this potential source of impact will not be considered further for aquatic resources.

The potential receptors of the environmental stressors of impingement, entrainment, and heat shock are the aquatic communities in the Delaware Estuary near HCGS. Ecologists typically divide such communities into the following categories for convenience when considering ecological impacts of power plants: Microbes, phytoplankton, submerged aquatic vegetation, invertebrate zooplankton, benthic invertebrates, fish, and sometimes birds, reptiles (e.g., sea turtles), and marine mammals. Of these, effects of power plant operation have been consistently demonstrated only for fish.

Unless otherwise noted, the following information on Delaware Estuary fish and blue crab (*Callinectes sapidus*) is from information summarized in the 2006 Salem NJPDES Permit Application (NJDEP 2006). Salem is an adjacent nuclear power plant that has conducted several large studies in support of permitting of its once-through cooling water system. About 200 species of fish have been reported from the Delaware Estuary. Some are resident, some are seasonal migrants, and some are occasional strays. In its NJPDES Permit Application, PSEG selected 11 species, one invertebrate and ten fish, as species representative of the aquatic community (Table 1).

TABLE 1.—SPECIES REPRESENTATIVE OF THE DELAWARE ESTUARY AQUATIC COMMUNITY NEAR ARTIFICIAL ISLAND

Common name	Scientific name	Comment
Blue Crab	*Callinectes sapidus*	Swimming crab, abundant in the estuary. Recreational and commercial species.
Alewife	*Alosa pseudoharengus*	Anadromous herring; abundant in the estuary.
American Shad	*Alosa sapidissima*	Anadromous herring; abundant in the estuary. Recreational and commercial species.
Atlantic Croaker	*Micropogonias undulatus*	Drum family. Delaware Estuary stock may be single population. Recreational and commercial species.
Atlantic Menhaden	*Brevoortia tyrannus*	Herring. Larvae and juveniles use the estuary as a nursery. Commercial species.
Atlantic Silverside	*Menidia menidia*	Resident in intertidal marsh creeks and shore zones.
Bay Anchovy	*Anchoa mitchelli*	Common in the bay and tidal river zones.
Blueback Herring	*Alosa aestivalis*	Anadromous herring; abundant in the estuary.
Spot	*Leiostomus xanthurus*	Drum family. Juveniles use the estuary as a nursery. Recreational and commercial species.
Striped Bass	*Morone saxatilis*	Anadromous temperate bass. Recreational and commercial species.
Weakfish	*Cynoscion regalis*	Drum family. Larvae and juveniles use the estuary as nursery. Recreational and commercial species.
White Perch	*Morone americana*	Temperate bass. Year-round residents anadromous within estuary. Recreational species.

Source: NJDEP 2006.

HCGS is located in the Delaware Estuary between the Delaware River upstream and the wide Delaware Bay downstream. Estuaries are drowned river valleys where fresh water from rivers mixes with the higher salinity water of the ocean and bays. In estuaries, salinity and water temperature may change with season, tides, and meteorological conditions. Typically, few species are resident in an estuary all of their lives, perhaps because surviving the wide variations in salinity and temperature poses physiological challenges to fish and invertebrates. The predominant resident fish species in the Delaware Estuary are hogchoker (*Trinectes maculatus*), white perch (*Morone americana*), bay anchovy (*Anchoa mitchelli*), Atlantic and tidewater silversides (*Menidia menidia* and *M. peninsulae,* respectively), naked goby (*Gobiosoma bosc*), and mummichog (*Fundulus heteroclitus*).

Resident fish species are represented by Atlantic silversides, bay anchovy, and white perch (Table 1). Atlantic silversides are relatively small common fish that inhabit intertidal creeks and shore zones. They mature in less than a year and seldom live beyond 2 years. Although there may be no discernable long-term trend in abundance in the Delaware Estuary, the short-term trend appears to be decreasing abundance. Bay anchovy may be the most abundant species in the estuary. This small fish overwinters in deep areas of the lower estuary and near-shore coastal zone. Though bay anchovies tend to stay in the lower part of the estuary, they stray as far north as Trenton. They tend to mature in the summer following their birth. Typically two spawning peaks occur, one in late May and one in mid-July, although some spawning occurs all summer. Most spawning occurs where salinity exceeds 20 parts per thousand (ppt), but some spawning may occur throughout the estuary. Although no long-term trend in abundance is evident, abundance since the mid-1990s appears to be declining. White perch are found throughout the brackish portions of the estuary. They are anadromous within the estuary (''semi-anadromous''), meaning that they undergo a seasonal migration from the deeper, more saline areas where they overwinter in fresh, shallow waters in the spring to spawn and then return to more brackish waters. They typically mature in 2 to 3 years. The abundance of white perch in the Delaware Estuary appears to be stable or increasing, possibly in response to long-term improvements in water quality.

Adult blue crabs are resident macro-invertebrates in the Delaware Estuary, although their larvae are not. After mating in shallow brackish areas of the upper estuary in spring, adult females migrate to the mouth of the bay. The eggs, which are extruded and carried on the undersides of females, hatch typically in the warm (77–86 °F), high salinity (18–26 ppt) waters of the lower bay in summer. After hatching, the larvae pass through seven planktonic stages, called zoeae, and move offshore with near-shore surface currents. The first post-larval stage, called a megalops, uses wind-driven currents and tides to move inshore. They then metamorphose to the first crab stage and move up the estuary. Adult male crabs do not migrate from the upper estuary. Crabs typically mature when 1 or 2 years old. Between 1980 and 2004, blue crab abundance in the Delaware Estuary appears to have increased.

Anadromous species live their adult lives at sea and migrate into fresh water to spawn. The most common anadromous fish species in the Delaware Estuary are alewife (*Alosa pseudoharengus*), American shad (*A. sapidissima*), blueback herring (*A. aestivalis*), and striped bass (*Morone saxatilis*), of which the first three are members of the herring family. The endangered shortnose sturgeon (*Acipenser brevirostrum*) is also anadromous. The ecology of the three herrings is similar, as is their appearance. All use the estuary as spawning and nursery habitat. All migrate to fresh water in the spring and are believed to return to their natal streams to spawn. The newly hatched larvae are planktonic and move downstream with the current. Juveniles remain in freshwater nursery areas throughout the summer and migrate to sea in the fall. They then remain at sea until maturity and migrate along the coast. Alewife have become more abundant since 1980, although the trend since 1990 is unclear. Abundance of American shad in the Delaware Estuary drastically declined in the early 1900s due to poor water quality, dam construction, over-fishing, and habitat destruction. American shad began to recover in the 1960s and 1980s and appears to be recovering still. No trends are evident in blueback herring abundance.

Striped bass is a fairly large member of the temperate bass family, which also includes white perch. Adult striped bass, which may reach weights of over 100 pounds, migrate up the estuary to fresh and brackish waters in the spring to spawn and are believed to return to their natal rivers and streams for spawning. The newly hatched larvae are

planktonic and move downstream with the current. Small juveniles use fresh and brackish areas as nurseries, and larger juveniles use the higher salinity waters of the lower estuary as feeding grounds. Adult striped bass live at sea and the lower estuary and migrate along the coast. Like American shad, the striped bass population in the Delaware Estuary declined prior to the 1980s but is now recovering.

The most common marine species that use the estuary include weakfish (*Cynoscion regalis*), spot (*Leiostomus xanthurus*), Atlantic croaker (*Micropogonias undulatus*), bluefish (*Pomatomus saltatrix*), summer flounder (*Paralichthys dentatas*), and Atlantic menhaden (*Brevoortia tyrannus*). Four of these, weakfish, spot, Atlantic croaker, and Atlantic menhaden, are shown as representative in Table 1. Atlantic croaker, spot, and weakfish are members of the drum family. Adult Atlantic croaker inhabit the deep, open areas of the lower bay from late spring through mid-fall. They spawn from July through April along the continental shelf. Larval Atlantic croaker first move with the currents and later move to the shallow areas of the bay. Juveniles use the shallow areas and tidal creeks in fresh and brackish water as nurseries, but move into deeper water during colder periods. They mature at about 2 to 4 years of age. Abundance of Atlantic croaker in the Delaware Estuary has been increasing since the early 1990s. Spot spawn over the continental shelf from late September through April. Larvae live in the ocean then move to the Bay. The young juveniles move upstream into tidal creeks and tributaries with low salinity. Like Atlantic croaker, spot move into deeper water during colder periods. Spot mature at 1 to 3 years old. Abundance of spot appears to be negatively related to the abundance of Atlantic croaker and has been decreasing. Weakfish spawn in the mouth of Delaware Bay in mid-May through mid-September, and after hatching, the larvae move up into the estuary to nursery areas of lower salinity (3 to 15 ppt). In mid-to-late summer they move south to mesohaline nursery grounds, and as temperatures decline in fall, the juveniles move south from the nursery areas to the continental shelf and south. They mature at an age of 1 or 2 years. Abundance of weakfish in the Delaware Estuary appear to have increased from the 1970s to 1990s and then declined.

Atlantic menhaden is a pelagic species that overwinters on the shelf, and large numbers overwinter off Cape Hatteras, North Carolina. The population moves north along the coast in the spring and south in the fall. The populations spawn all year, and peak spawning occurs off the Delaware Bay in spring and fall. The larvae move by wind-driven currents into estuarine nursery grounds, where they transform to juveniles and move upstream to oligohaline waters and then move out the estuary with falling temperatures. In the fall, they congregate into dense schools and move out of the estuary and south along the coast. Atlantic menhaden mature at about age two. No trend in abundance in the Delaware Estuary is apparent.

While the identity of species potentially affected by entrainment, impingement, and heat shock may be inferred from ecological information about the Delaware Estuary, the species affected cannot be verified, and the numbers cannot be quantified because no environmental monitoring programs are conducted at the HCGS. Impinged organisms are most likely to die, and the fish-return system does not function continuously to minimize mortality. All organisms entrained at HCGS, which operates a cooling tower, are probably killed from exposure to heat, mechanical, pressure-related stresses, and possibly biocidal chemicals before being discharged to the estuary.

The NRC staff found few data with which to assess impacts to aquatic organisms due to operation of HCGS. Under the proposed EPU, water withdrawal rates would not change from present conditions. Entrainment and impingement impacts may change over time due to changes in the aquatic populations even though HCGS's water withdrawal rate would not change from present conditions. Impacts due to impingement and entrainment losses are minimized because the closed-cycle cooling system at the plant minimizes the amount of cooling water withdrawn from and heated effluent returned to the estuary. The water quality of the effluent (e.g., temperature, toxicity, TDS concentrations) would continue to meet present NJPDES permit conditions for protection of aquatic life. The staff concludes that the proposed EPU would have no significant impact to aquatic biota.

Essential Fish Habitat Consultation

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) identifies the importance of habitat protection to healthy fisheries. Essential Fish Habitat (EFH) is defined as those waters and substrata necessary for spawning, breeding, feeding, or growth to maturity (Magnuson-Stevens Act, 16 U.S.C. 1801, *et seq.*). Designating EFH is an essential component in the development of Fishery Management Plans to minimize habitat loss or degradation of fishery stocks and to take actions to mitigate such damage. The consultation requirements of Section 305(b) of the MSA provide that Federal agencies consult with the Secretary of Commerce on all actions or proposed actions authorized, funded, or undertaken by the agency that may adversely affect EFH. An EFH assessment for the proposed EPU was sent to the National Marine Fisheries Service (NMFS) under separate cover to initiate an EFH consultation.

Impacts on Terrestrial Biota

The potential impacts to terrestrial biota from the proposed action would be those from transmission line ROW maintenance. Under EPU conditions, PSEG does not plan to change transmission line maintenance or add new transmission lines. In addition, PSEG does not plan to conduct major refurbishment of significant land-disturbing activities in order to implement the proposed EPU. Because no changes are planned that have the potential to impact terrestrial biota, the NRC staff concludes that the proposed EPU would have no impacts to terrestrial biota associated with transmission line ROW maintenance.

Threatened and Endangered Species and Critical Habitat

In a letter dated December 8, 2006, pursuant to Section 7 of the Endangered Species Act of 1969, as amended, the NRC requested from the NMFS a list of species and information on protected, proposed, and candidate species and critical habitat that are under their jurisdiction and may be in the vicinity of HCGS and its associated transmission lines. In response, NMFS issued a letter dated January 26, 2007, that provided information on the endangered shortnose sturgeon; Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), a candidate species for listing; and five species of endangered or threatened sea turtles: Loggerhead (*Caretta caretta*), Kemp's ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), green (*Chelonia mydas*), and hawksbill (*Eretmochelys imbricata*) turtles. The NRC staff investigated the effects of HCGS operation on these species and found that the primary concern for these endangered and threatened species is the risk of impingement or entrainment due to cooling water intake by the plant. The proposed EPU would not change the intake flow, and, therefore, would not increase in the risk of impingement and entrainment. To dissipate the additional heat created by the EPU, the

temperature of the plant's cooling water discharge would be slightly elevated, but still within the NJPDES 24-hour average temperature limit of 97.1 °F. In addition, HCGS has had no takes of any of the endangered or threatened species listed above. Therefore, the NRC staff anticipates no effects related to the intake or discharge on threatened or endangered species under NMFS's jurisdiction, and on May 3, 2007, sent a letter to NMFS concluding the informal Section 7 consultation.

Although an informal consultation with the U.S. Fish and Wildlife Service regarding bald eagles was initiated for the HCGS, the U.S. Fish and Wildlife Service delisted bald eagles pursuant to the Endangered Species Act on July 9, 2007, and concluded the informal consultation.

Socioeconomic Impacts

The potential socioeconomic impacts due to the proposed EPU include changes in the payments in lieu of taxes for Lower Alloways Creek Township and Salem County and changes in the size of the workforce at HCGS. Nearly 70 percent of HCGS employees currently resides in Salem, Cumberland, and Gloucester Counties in New Jersey.

The proposed EPU would not increase the size of the HCGS workforce, since proposed plant modifications and other planned activities would be handled by the current workforce or would be phased in during planned outages. Also, the proposed EPU would not increase the size of the HCGS workforce during future refueling outages. Therefore, the proposed EPU would not have any measurable effect on annual earnings and income in Salem, Cumberland, and Gloucester Counties nor would there be any increased demand for community services.

According to the 2000 Census, Salem, Cumberland, and Gloucester County populations were about 20.4, 41.6, and 14.3 percent minority, respectively (USCB 2000). The percentages of minority populations residing in Salem and Gloucester Counties were well below the State minority population of 34.0 percent. In addition, the poverty rates for individuals living in Salem and Cumberland Counties were 9.5 and 15.0 percent, respectively, which were higher than the State's average of 8.5 percent (the Gloucester County poverty rate was 6.2 percent)(USCB 2000a). Even though these percentages are relatively high, the proposed EPU would not have any disproportionately high and adverse impacts to minority and low-income populations, because no significant environmental impacts were identified during the analysis.

The proposed EPU could affect the value of HCGS and the amount of monies paid to local jurisdictions, in-lieu-of-property tax payments, because the total amount of tax money to be distributed would increase as power generation increases and because the proposed EPU would increase HCGS's value, thus resulting in potentially larger payments to Lower Alloways Creek Township and Salem County. Also, because the proposed EPU would increase the economic viability of HCGS, the probability of early plant retirement would be reduced. Early plant retirement would have a negative impact on the local economy by reducing or eliminating payments to Lower Alloways Creek Township and Salem County and limiting employment opportunities in the region.

Since the proposed EPU would not affect annual earnings and income in Salem County, nor demand for community services and due to the lack of significant environmental impacts on minority or low-income populations, there would be no significant socioeconomic or environmental justice impacts associated with the proposed EPU. Conversely, the proposed EPU could have a positive effect on the regional economy because of the potential increase in the payments in-lieu-of-taxes received by the Lower Alloways Creek Township and Salem County, due to the potential increase in the book value of HCGS and long-term viability of HCGS.

Summary

The proposed EPU would not result in a significant change in non-radiological impacts in the areas of land use, water use, waste discharges, cooling tower operation, terrestrial and aquatic biota, transmission facility operation, or socioeconomic factors. No other non-radiological impacts were identified or would be expected. Table 2 summarizes the non-radiological environmental impacts of the proposed EPU at HCGS.

TABLE 2.—SUMMARY OF NON-RADIOLOGICAL ENVIRONMENTAL IMPACTS

Land Use	No significant land use modifications; installed temporary office space to support EPU.
Cooling Tower	No significant aesthetic impact; no significant fogging or icing.
Transmission Facilities	No physical modifications to transmission lines or ROWs; lines meet shock safety requirements; small increase in electrical current would cause small increase in electromagnetic field around transmission lines.
Water Use	No configuration change to intake structure; no increase rate of withdrawal; slight increase in water consumption due to increased evaporation; no water use conflicts.
Discharge	Increase in water temperature and containment concentration discharged to Delaware River; would meet discharge limits in current NJPDES permit following EPU implementation.
Aquatic Biota	Entrainment and impingement losses may change over time due to changes in the aquatic population but are minimized because of the closed-cycle cooling system utilized at the plant. The water quality of the effluent would continue to meet NJPDES permit conditions for protection of aquatic life. EFH consultation ongoing.
Terrestrial Biota	No land disturbance or changes to transmission line ROW maintenance are expected; therefore, there would be no significant effects on terrestrial species or their habitat.
Threatened and Endangered Species.	No significant impacts are expected on threatened or endangered species or their habitat. Informal consultation with U.S. Fish and Wildlife Service ongoing.
Socioeconomic	No change in the size of HCGS labor force required for plant operation and planned outages; proposed EPU could increase payments in-lieu-of-taxes to Lower Alloways Creek Township and Salem County as well as the book value of HCGS; there would be no disproportionately high and adverse impact on minority and low-income populations.

Radiological Impacts

The NRC staff evaluated radiological environmental impacts on waste streams, dose, accident analysis, and fuel cycle and transportation factors. Following is a general discussion of these issues and an evaluation of their environmental impacts.

Radioactive Waste Stream Impacts

HCGS uses waste treatment systems designed to collect, process, and dispose of gaseous, liquid, and solid wastes that might contain radioactive material in a

safe and controlled manner such that the discharges are in accordance with the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 20, and Appendix I to 10 CFR part 50.

The licensee has indicated that operation at EPU conditions would not result in any changes in the operation or design of equipment in the radioactive waste solid waste, liquid waste, or gaseous waste management systems (GWMS). The safety and reliability of these systems would be unaffected by the power uprate. Neither the environmental monitoring of any of these waste streams nor the radiological monitoring requirements of the HCGS Technical Specifications and/or Offsite Dose Calculation Manual (ODCM) would be affected by the EPU. Furthermore, the EPU would not introduce any new or different radiological release pathways, nor would it increase the probability of either an operator error or an equipment malfunction, that would result in an uncontrolled radioactive release (PSEG 2005). The EPU would produce a larger amount of fission and activation products; however, the waste treatment systems are designed to handle the additional source term. The specific effects on each of the radioactive waste management systems are evaluated below.

Gaseous Radioactive Waste and Offsite Doses

During normal operation, HCGS's GWMS processes and controls the release of gaseous radioactive effluents to the environment. The GWMS includes the off-gas system and various building ventilation systems. The radioactive release rate of the gaseous effluent is well monitored and administratively controlled by the HCGS ODCM (PSEG 2005). The single year highest annual releases of gaseous radioactive material, for the time period 2000–2004, were 6.30 Curies (Ci) for noble gases in 2003, 0.0060 Ci for particulates in 2000, and 0.014 Ci for iodines in 2004 (PSEG 2005).

The licensee has estimated that the amount of radioactive material released in gaseous effluents would increase in proportion to the increase in power level (15 percent) (PSEG 2005). Based on experience from EPUs at other plants, the NRC staff concludes that this is an acceptable estimate. The dose to a member of the public, including the additional gaseous radioactive material that would be released from the proposed EPU, is calculated to still be well within the radiation standards of 10 CFR Part 20 and the dose design objectives of Appendix I to 10 CFR part 50. Therefore, the NRC staff concludes that the impact from the EPU would not be significant.

Liquid Radioactive Waste and Offsite Doses

During normal operation, HCGS's Liquid Waste Management System (LWMS) processes and controls the release of liquid radioactive effluents to the environment, such that the doses to individuals offsite are maintained within the limits of 10 CFR part 20 and the design objectives of Appendix I to 10 CFR part 50. The LWMS is designed to process the waste and then recycles it within the plant as condensate, reprocesses it through the radioactive waste system for further purification, or discharges it to the environment as liquid radioactive waste effluent in accordance with facility procedures which comply with New Jersey and Federal regulations. The radioactive release rate of the liquid effluent is well monitored and administratively controlled by the HCGS ODCM (PSEG 2005). The single year highest annual releases of liquid radioactive material, for the time period 2000–2004, were 54,742,400 gallons (2.072E+8 liters) and 0.068 Ci of fission and activating products in 2003 (PSEG 2005).

Even though the EPU would produce a larger amount of radioactive fission and activation products and a larger volume of liquid to be processed, the licensee expects the LWMS to remove all but a small amount of the increased radioactive material. The licensee has estimated that the volume of radioactive liquid effluents released to the environment and the amount of radioactive material in the liquid effluents would increase by 2.2 percent, due to the EPU. Based on experience from EPUs at other plants, the NRC staff concludes that this is an acceptable estimate. The dose to a member of the public, including the additional liquid radioactive material that would be released from the proposed EPU, is calculated to still be well within the radiation standards of 10 CFR part 20 and the dose design objectives of Appendix I to 10 CFR part 50. Therefore, the NRC staff concludes that the impact from the EPU would not be significant.

Solid Radioactive Waste and Offsite Doses

During normal operation, HCGS's Solid Waste Management System (SWMS) collects, processes, packages, and temporarily stores radioactive dry and wet solid wastes prior to shipment offsite and permanent disposal. The SWMS is designed to package the wet and dry types of radioactive solid waste for offsite shipment and burial, in accordance with the requirements of applicable NRC and Department of Transportation regulations, including 10 CFR part 61, 10 CFR part 71, and 49 CFR parts 170 through 178. This results in radiation exposures to a member of the public to be well within the limits of 10 CFR part 20 and the design objectives of Appendix I to 10 CFR part 50. The volume of solid radioactive waste generated varied from about 11.7 to almost 90.4 cubic meters per year for the time period 2000–2004; the largest volume generated was 90.4 cubic meters in 2002. The amount of solid radioactive material in the waste generated varied from 1 to almost 600 Ci per year during that same period. The largest amount of radioactive material generated in the solid waste was 591 Ci in 2001 (PSEG 2005).

The EPU would produce a larger amount of radioactive fission and activation products, and treatment of this increase would require more frequent replacement or regeneration of SWMS filters and demineralizer resins. The licensee has estimated that the volume and radioactivity of solid radioactive waste would increase by approximately 14.7 percent from the average of the time period 2000–2004, due to the EPU (PSEG 2005). Based on experience from EPUs at other plants, the NRC staff concludes that this is an acceptable estimate. Therefore, the staff concludes that the impact from the increased volume of solid radwaste generated due to the EPU would not be significant.

The licensee estimates that the EPU would require replacement of 10 percent more fuel assemblies at each refueling. This increase in the amount of spent fuel being generated would require an increase in the number of dry fuel storage casks used to store spent fuel. However, the current dry fuel storage facility at HCGS can accommodate the increase.

Occupational Radiation Doses

The proposed EPU would result in the production of more radioactive material and higher radiation dose rates in some areas at HCGS. PSEG's radiation protection staff will monitor these increased dose rates and make adjustments in shielding, access requirements, decontamination methods, and procedures as necessary to minimize the dose to workers. In addition, occupational dose to individual workers must be maintained within the limits of 10 CFR part 20 and as low as reasonably achievable.

The licensee has estimated that after the implementation of EPU, the estimated annual average collective occupational dose would be in the range of 146 person-rem, representing a 16-percent increase of in-plant occupation exposure (PSEG 2005). According to the 2004 report on ''Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities,'' the highest HCGS occupational exposure is 240 person-rem in 2004, for the time period 2002–2004 (NUREG 2004). The dose to a member of HCGS personnel from the radiation exposures described above, increased by 20 percent, would still be well within the radiation standards of 10 CFR part 20. Based on experience from EPUs at other plants, the NRC staff concludes that these estimates are acceptable. Based on these estimates, the NRC staff concludes that the increase in occupational exposure would not be significant.

Offsite Radiation Doses

Offsite radiation dose consists of three components: Gaseous, liquid, and direct gamma radiation. As previously discussed under the Gaseous Radiological Wastes and Liquid Radiological Wastes sections, the estimated doses to a member of the public from gaseous and liquid effluents after the EPU is implemented would be within the dose design objectives of Appendix I to 10 CFR part 50.

The final component of offsite dose is from direct gamma radiation dose from radioactive waste stored temporarily onsite, including spent fuel in dry cask storage, and radionuclides (mainly nitrogen-16) in the steam from the reactor passing through the turbine system. The high energy radiation from nitrogen-16 is scattered or reflected by the air above the site and represents an additional public radiation dose pathway known as ''skyshine.'' The licensee estimated that the offsite radiation dose from skyshine would increase linearly with the increase in power level from the EPU (15 percent); more nitrogen-16 is produced at the higher EPU power and less of the nitrogen-16 decays before it reaches the turbine system because of the higher rate of steam flow due to the EPU. The licensee's radiological environmental monitoring program measures radiation dose at the site boundary and in the area around the plant with an array of thermoluminescent dosimeters. The licensee estimated that the offsite radiation dose would increase to approximately 9.3 millirem (mrem), in proportion to the EPU power increase (15 percent) (PSEG 2005). Based on experience from EPUs at other plants, the NRC staff concludes that this is an acceptable estimate. EPA regulation 40 CFR part 190, and NRC regulation 10 CFR Part 20, limit the dose to any member of the public to 25 mrem per year to the whole body from the entire nuclear fuel cycle. The offsite dose from all sources, including radioactive gaseous and liquid effluents and direct radiation, would still be well within this limit after the EPU is implemented. Therefore, the NRC staff concludes that the increase in offsite radiation dose would not be significant.

Postulated Accident Doses

As a result of implementation of the proposed EPU, there would be an increase in the inventory of radionuclides in the reactor core; the core inventory of radionuclides would increase as power level increases. The concentration of radionuclides in the reactor coolant may also increase; however, this concentration is limited by the HCGS technical specifications. Therefore, the reactor coolant concentration of radionuclides would not be expected to increase significantly. Some of the radioactive waste streams and storage systems may also contain slightly higher quantities of radioactive material. The calculated doses from design basis postulated accidents for HCGS are currently well below the criteria of 10 CFR 50.67. The licensee has estimated that the radiological consequences of postulated accidents would increase approximately in proportion to the increase in power level from the EPU (15 percent). Based on experience from EPUs at other plants, the NRC staff concludes that this is an acceptable estimate. The calculated doses from design basis postulated accidents would still be well within the criteria of 10 CFR 50.67 after the increase due to the implementation of the EPU. These calculated doses are based on conservative assumptions for the purposes of safety analyses. Estimates of the radiological consequences of postulated accidents for the purposes of estimating environmental impact are made by the NRC using best estimate assumptions, which result in substantially lower dose estimates. Therefore, the NRC staff concludes that the increase in radiological consequences for postulated accidents due to the EPU would not be significant.

Fuel Cycle and Transportation Impacts

The environmental impacts of the fuel cycle and transportation of fuel and waste are described in Tables S–3 and S–4 of 10 CFR 51.51 and 10 CFR 51.52, respectively. An additional NRC generic EA (53 FR 30355, dated August 11, 1988, as corrected by 53 FR 32322, dated August 24, 1988) evaluated the applicability of Tables S–3 and S–4 to a higher burn-up fuel cycle and concluded that there would be no significant change in environmental impact from the parameters evaluated in Tables S–3 and S–4 for fuel cycles with uranium enrichments up to 5 weight percent uranium-235 and burn-ups less than 60,000 MW days per metric ton of uranium-235 (MWd/MTU).

The proposed EPU would increase the power level to 3,840 MWt, which is approximately 1 percent above the reference power level of 3,800 MWt for Table S–4. The increased power level of 3,840 MWt corresponds to approximately 1,265 MWe, which is 26.5 percent above the reference power level of 1,000 MWe for Table S–3. Part of the increase is due to a more efficient turbine design; this increase in efficiency does not affect the impacts of the fuel cycle and transportation of waste. More fuel will be used in the reactor (more fuel assemblies will be replaced at each refueling outage), and that will potentially affect the impacts of the fuel cycle and transportation of waste. However, the fuel enrichment and burn-up rate criteria will still be met because fuel enrichment will be maintained no greater than 5 weight percent uranium-235, and the fuel burn-up rate will be maintained within 60 MWd/MTU. The NRC staff concludes that after adjusting for the effects of the more efficient turbine, the potential increases in the impact due to the uranium fuel cycle and the transportation of fuel and waste from the increased amount of fuel used would not be significant.

Summary

Based on the NRC staff review of licensee submission and the FES for operation, it is concluded that the proposed EPU would not significantly increase the consequences of accidents, would not result in a significant increase in occupational or public radiation exposure, and would not result in significant additional fuel cycle environmental impacts. Accordingly, the Commission concludes that there would be no significant radiological environmental impacts associated with the proposed action. Table 3 summarizes the radiological environmental impacts of the proposed EPU at HCGS.

TABLE 3.—SUMMARY OF RADIOLOGICAL ENVIRONMENTAL IMPACTS

Gaseous Radiological Effluents.	Increased gaseous effluents (20 percent) would remain within NRC limits and dose design objectives.
Liquid Radiological Effluents	Increased liquid effluents (2.2 percent) would remain within NRC limits and dose design objectives.
Solid Radioactive Waste	Increased amount of solid radioactive waste generated (14.7 percent by volume & 20 percent by radioactivity) would remain bounded by evaluation in the FES.
Occupational Radiation Doses.	Occupational dose would increase by roughly 16 percent. Doses would be maintained within NRC limits and as low as is reasonably achievable.
Offsite Radiation Doses	Radiation doses to members of the public would increase to approximately 9.3 mrem and continue to be well within NRC and EPA regulations.
Postulated Accident Doses ..	Calculated doses for postulated design-basis accidents would remain within NRC limits.
Fuel Cycle and Transportation Impacts.	Fuel enrichment and burnup rate criteria would be met. Potential increases in the impact due to uranium fuel cycle and the transportation of fuel and waste would not be significant.

Alternatives to Proposed Action

As an alternative to the proposed action, the NRC staff considered denial of the proposed EPU (i.e., the ''no-action'' alternative). Denial of the application would result in no change in the current environmental impacts. However, if the proposed EPU were not approved, other agencies and electric power organizations may be required to pursue alternative means of providing electric generation capacity to offset the increased power demand forecasted for the PJM regional transmission territory.

A reasonable alternative to the proposed EPU would be to purchase power from other generators in the PJM network. In 2003, generating capacity in PJM consisted primarily of fossil fuel-fired generators: Coal generated 36.2 percent of PJM capacity, oil 14.3 percent, and natural gas 6.8 percent. This indicates that purchased power in the PJM territory would likely be generated by a fossil-fuel-fired facility. Construction (if new generation is needed) and operation of a fossil fuel plant would create impacts in air quality, land use, and waste management significantly greater than those identified for the proposed EPU at HCGS. HCGS does not emit sulfur dioxide, nitrogen oxides, carbon dioxide, or other atmospheric pollutants that are commonly associated with fossil fuel plants. Conservation programs such as demand-side management could feasibly replace the proposed EPU's additional power output. However, forecasted future energy demand in the PJM territory may exceed conservation savings and still require additional generating capacity. Furthermore, the proposed EPU does not involve environmental impacts that are significantly different from those originally identified in the 1984 HCGS FES for operation.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the original FES for construction (AEC 1974).

Agencies and Persons Consulted

In accordance with its stated policy, on July 24, 2007, the NRC staff consulted with the New Jersey State official, Mr. Jerry Humphreys, of the New Jersey Department of Environmental Protection, regarding the environmental impact of the proposed action. The state official stated that any comments would be provided during the 30-day public comment period.

Finding of No Significant Impact

On the basis of the EA, the NRC concludes that the proposed action would not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an Environmental Impact Statement for the proposed action.

For further details with respect to the proposed action, see the licensee's application dated September 18, 2006, as supplemented on October 10, and October 20, 2006; February 14, February 16, February 28, March 13 (2 letters), March 22, March 30 (2 letters), April 13, April 18, April 30, May 10, May 18 (3 letters), May 24, June 22, and August 3, 2007. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland 20852. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the NRC Web site, *http://www.nrc.gov/reading-rm/adams.html.* Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff at 1–800–397–4209, or 301–415–4737, or send an e-mail to *pdr@nrc.gov.*

DATES: The comment period expires November 21, 2007. Comments received after this date will be considered if it is practical to do so, but the Commission is only able to assure consideration of comments received on or before November 21, 2007.

ADDRESSES: Submit written comments to Chief, Rules and Directives Branch, Office of Administration, U.S. Nuclear Regulatory Commission, Mail Stop T–6D59, Washington, DC 20555–0001. Written comments may also be delivered to 11545 Rockville Pike, Room T–6D59, Rockville, Maryland 20852 from 7:30 a.m. to 4:15 p.m. on Federal workdays. Copies of written comments received will be electronically available at the NRC's Public Electronic Reading Room link, *http://www.nrc.gov/reading-rm/adams.html*, on the NRC Web site or at the NRC's PDR located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland 20852. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff at 1–800–397–4209, or 301–415–4737, or by e-mail to *pdr@nrc.gov*.

SUPPLEMENTARY INFORMATION: The NRC is considering issuance of an amendment to Facility Operating License No. NPF–057 issued to PSEG Nuclear, LLC for the operation of Hope Creek Generating Station, Unit 1, located in Salem County, New Jersey.

FOR FURTHER INFORMATION CONTACT: John G. Lamb, Office of Nuclear Reactor Regulation, Mail Stop O–8B1A, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001, by telephone at (301) 415–3100, or by e-mail at *JGL1@nrc.gov*.

Dated at Rockville, Maryland, this 12th day of October 2007.

For the Nuclear Regulatory Commission.

Harold K. Chernoff,

Chief, Plant Licensing Branch I–2, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation.

[FR Doc. E7–20761 Filed 10–19–07; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

Advisory Committee on Reactor Safeguards; Meeting Notice

In accordance with the purposes of Sections 29 and 182b. of the Atomic Energy Act (42 U.S.C. 2039, 2232b), the Advisory Committee on Reactor Safeguards (ACRS) will hold a meeting on November 1–3, 2007, 11545 Rockville Pike, Rockville, Maryland. The date of this meeting was previously published in the **Federal Register** on Wednesday, November 15, 2006 (71 FR 66561).

Thursday, November 1, 2007, Conference Room T–2b3, Two White Flint North, Rockville, Maryland

8:30 a.m.–8:35 a.m.: Opening Remarks by the ACRS Chairman (Open)—The ACRS Chairman will make opening remarks regarding the conduct of the meeting.

8:35 a.m.–10:30 a.m.: Extended Power Uprate Application for the Susquehanna Nuclear Power Plant (Open/Closed)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff and the Pennsylvania Power & Light Company regarding the Extended Power Uprate Application for the Susquehanna Nuclear Power Plant, and the associated NRC staff's Safety Evaluation.

Note: A portion of this session may be closed to protect information that is proprietary to General Electric, AREVA, and their contractors pursuant to 5 U.S.C. 552b (c) (4).

10:45 a.m.–11:45 a.m.: Meeting with Commissioner Peter B. Lyons (Open)—The Committee will hold a discussion with Commissioner Lyons on items of mutual interest.

12:45 p.m.–2:45 p.m.: Vogtle Early Site Permit (ESP) Application (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff and Southern Nuclear Operating Company regarding Vogtle ESP application, and the associated NRC staff's Safety Evaluation Report with Open Items.

3 p.m.–4 p.m.: Staff's Implementation of the Lessons Learned from the Review of ESP Applications (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the effectiveness and efficiency of the staff's implementation of the lessons learned from the review of ESP applications.

4:15 p.m.–6:15 p.m.: Assessment of the Robustness of New Nuclear Plants (Room T–10E8) (Closed)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the assessment of the robustness of new nuclear plants.

Note: This session will be closed to protect information classified as National Security information as well as safeguards information pursuant to 5 U.S.C. 552b (c) (1) and (3).

6:30 p.m.–7:15 p.m.: Preparation of ACRS Reports (Open)—The Committee will discuss proposed ACRS reports.

Friday, November 2, 2007, Conference Room T–2b3, Two White Flint North, Rockville, Maryland

8:30 a.m.–8:35 a.m.: Opening Remarks by the ACRS Chairman (Open)—The ACRS Chairman will make opening remarks regarding the conduct of the meeting.

8:35 a.m.–10:30 a.m.: Selected Chapters of the SER Associated with the ESBWR Design Certification (Open/Closed)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff and General Electric regarding selected chapters of the SER with Open Items associated with the ESBWR design certification.

Note: A portion of this session may be closed to protect information that is proprietary to General Electric and their contractors pursuant to 5 U.S.C. 552b (c) (4).

10:45 a.m.–11:30 a.m.: Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open)—The Committee will discuss the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the full Committee during future meetings. Also, it will hear a report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business, including anticipated workload and member assignments.

11:30 a.m.–11:45 a.m.: Reconciliation of ACRS Comments and Recommendations (Open)—The Committee will discuss the responses from the NRC Executive Director for Operations to comments and recommendations included in recent ACRS reports and letters.

1 p.m.–3 p.m.: Draft ACRS Report on the NRC Safety Research Program (Open)—The Committee will discuss the draft ACRS report on the NRC Safety Research Program.

3:15 p.m.–7 p.m.: Preparation of ACRS Reports (Open)—The Committee will discuss proposed ACRS reports.

Saturday, November 3, 2007, Conference Room T–2b3, Two White Flint North, Rockville, Maryland

8:30 a.m.–1:30 p.m.: Preparation of ACRS Reports (Open)—The Committee will continue its discussion of proposed ACRS reports, as well as the draft ACRS report on the NRC Safety Research Program.

1:30 p.m.–2 p.m.: Miscellaneous (Open)—The Committee will discuss matters related to the conduct of Committee activities and matters and specific issues that were not completed during previous meetings, as time and availability of information permit.

Procedures for the conduct of and participation in ACRS meetings were published in the **Federal Register** on September 26, 2007 (72 FR 54695). In accordance with those procedures, oral or written views may be presented by members of the public, including representatives of the nuclear industry. Electronic recordings will be permitted only during the open portions of the meeting. Persons desiring to make oral statements should notify the Cognizant ACRS staff named below five days before the meeting, if possible, so that appropriate arrangements can be made to allow necessary time during the meeting for such statements. Use of still, motion picture, and television cameras during the meeting may be limited to selected portions of the meeting as determined by the Chairman. Information regarding the time to be set aside for this purpose may be obtained by contacting the Cognizant ACRS staff prior to the meeting. In view of the possibility that the schedule for ACRS meetings may be adjusted by the Chairman as necessary to facilitate the conduct of the meeting, persons planning to attend should check with the Cognizant ACRS staff if such rescheduling would result in major inconvenience.

In accordance with Subsection 10(d) Public Law 92–463, I have determined that it may be necessary to close portions of this meeting noted above to discuss and protect information classified as proprietary to General Electric, AREVA, and their contractors pursuant to 5 U.S.C 552b (c) (4) and National Security, as well as Safeguards information pursuant to 5 U.S.C. 552b (c) (1) and (3).

Further information regarding topics to be discussed, whether the meeting has been canceled or rescheduled, as well as the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by contacting Mr. Giriga S. Shukla, Cognizant ACRS

staff (301–415–8439), between 7:30 a.m. and 4 p.m., (ET). ACRS meeting agenda, meeting transcripts, and letter reports are available through the NRC Public Document Room at *pdr@nrc.gov*, or by calling the PDR at 1–800–397–4209, or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS) which is accessible from the NRC Web site at *http://www.nrc.gov/reading-rm/adams.html* or *http://www.nrc.gov/reading-rm/doc-collections/ (ACRS & ACNW Mtg schedules/agendas*).

Video teleconferencing service is available for observing open sessions of ACRS meetings. Those wishing to use this service for observing ACRS meetings should contact Mr. Theron Brown, ACRS Audio Visual Technician (301–415–8066), between 7:30 a.m.–and 3:45 p.m., (ET), at least 10 days before the meeting to ensure the availability of this service. Individuals or organizations requesting this service will be responsible for telephone line charges and for providing the equipment and facilities that they use to establish the video teleconferencing link. The availability of video teleconferencing services is not guaranteed.

The ACRS meeting dates for Calendar Year 2008 are provided below:

ACRS Meeting No.	Meeting dates
—	January 2008 (No Meeting).
549	February 7–9, 2008.
550	March 6–8, 2008.
551	April 3–5, 2008.
552	May 8–10, 2008.
553	June 4–6, 2008 (Wed—Fri).
554	July 9–11, 2008 (Wed—Fri).
—	August (No Meeting).
555	September 4–6, 2008.
556	October 2–4, 2008.
557	November 6–8, 2008.
558	December 4–6, 2008.

Dated: *October 16, 2007.*

Andrew L. Bates,

Advisory Committee Management Officer.

[FR Doc. E7–20773 Filed 10–19–07; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

Withdrawal of Regulatory Guides

AGENCY: Nuclear Regulatory Commission.

ACTION: Withdrawal of Regulatory Guides 9.1, 9.2, and 9.3.

FOR FURTHER INFORMATION CONTACT: Marquis P. Orr, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001, telephone: 301–415–6373 or e-mail *MPO1@nrc.gov.*

SUPPLEMENTARY INFORMATION:

I. Introduction

The U.S. Nuclear Regulatory Commission (NRC) is withdrawing Regulatory Guide 9.1, ''Regulatory Staff Position Statement on Antitrust Matters,'' published December 1973; Regulatory Guide 9.2, ''Information Needed by the NRC Staff in Connection with its Antitrust Review of Construction Permit Applications for Nuclear Power Plants,'' initially published October 1974, and revised June 1976; and Regulatory Guide 9.3, ''Information Needed by the AEC Regulatory Staff in Connection with its Antitrust Review of Operating License Applications for Nuclear Power Plants,'' published October 1974. The NRC is withdrawing these three regulatory guides because they are no longer required.

These three regulatory guides address the antitrust review conducted by the staff during the evaluation of new plant construction and operating license applications. The review was required by Section 105.c of the Atomic Energy Act of 1954, as amended. Section 625 of the Energy Policy Act of 2005 (Pub. L. 109–058) removed the NRC's authority to perform these antitrust reviews for applications submitted after the date of enactment of the law. The Energy Policy Act of 2005 was passed by the U.S. Congress on July 29, 2005, and signed into law by President George W. Bush on August 8, 2005. Consequently, the staff has determined that Regulatory Guides 9.1, 9.2, and 9.3 are no longer required.

II. Further Information

The withdrawal of Regulatory Guides 9.1, 9.2, and 9.3 does not, in and of itself, alter any prior or existing licensing commitments based on their use. The guidance provided in these regulatory guides is no longer applicable. Regulatory guides may be withdrawn when their guidance is superseded by congressional action or otherwise no longer provides useful information.

Regulatory guides are available for inspection or downloading through the NRC's public Web site under ''Regulatory Guides'' in the NRC's Electronic Reading Room at *http://www.nrc.gov/reading-rm/doc-collections.* Regulatory guides are also available for inspection at the NRC's Public Document Room (PDR), Room O–1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852–2738. The PDR's mailing address is U.S. NRC PDR, Washington, DC 20555–0001. The PDR staff can be reached by telephone at 301–415–4737 or 800–397–4209, by fax at 301–415–3548, and by e-mail to *pdr@nrc.gov.*

Regulatory Guides are not copyrighted and NRC approval is not required to reproduce them.

Dated at Rockville, Maryland, this 12th day of October, 2007.

For the Nuclear Regulatory Commission.

Michael R. Johnson,

Deputy Director, Office of Nuclear Regulatory Research.

[FR Doc. E7–20730 Filed 10–19–07; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

Withdrawal of Regulatory Guide

AGENCY: Nuclear Regulatory Commission.

ACTION: Withdrawal of Regulatory Guide 9.4.

FOR FURTHER INFORMATION CONTACT: Marquis P. Orr, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001, telephone: 301–415–6373 or e-mail *MPO1@nrc.gov.*

SUPPLEMENTARY INFORMATION:

I. Introduction

The U.S. Nuclear Regulatory Commission (NRC) is withdrawing Regulatory Guide 9.4, ''Suggested Format for Cash Flow Statements Submitted as Guarantees of Payment of Retrospective Premiums,'' which was issued for comment in September 1978. Regulatory Guide 9.4 proposes a format for cash flow statements to be submitted by the licensee to demonstrate compliance with title 10 of the *Code of Federal Regulations* (10 CFR), subpart 140.21, ''Licensee guarantees of payment of deferred premiums.'' The method described in Regulatory Guide 9.4 unnecessarily duplicates other financial and insurance verification documents submitted by the licensees to demonstrate compliance with other sections of 10 CFR part 140. Rather than submit separate cash flow and financial assurance statements, licensees may submit proof of sufficient insurance bonding through American Nuclear Insurers or similar insurance groups. This insurance bond meets the requirements of 10 CFR 140.21(a) and eliminates the need for a separate cash flow statement.

II. Further Information

Withdrawal of Regulatory Guide 9.4 does not, in and of itself, alter any prior or existing licensing commitments based on its use. The guidance provided in this regulatory guide is no longer necessary. Regulatory guides may be withdrawn when their guidance is superseded by congressional action, the methods or techniques described in the regulatory guide no longer describe a preferred approach, or the regulatory guide does not provide useful information.

Regulatory guides are available for inspection or downloading through the NRC's public Web site under ''Regulatory Guides'' in the NRC's Electronic Reading Room at *http://www.nrc.gov/reading-rm/doc-collections*. Regulatory guides are also available for inspection at the NRC's Public Document Room (PDR), Room O–1F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852–2738. The PDR's mailing address is U.S. NRC PDR, Washington, DC 20555–0001. The PDR staff can be reached by telephone at 301–415–4737 or 800–397–4209, by fax at 301–415–3548, and by e-mail to *pdr@nrc.gov*.

Regulatory guides are not copyrighted and NRC approval is not required to reproduce them.

Dated at Rockville, Maryland, this 12th day of October 2007.

For the Nuclear Regulatory Commission.

Michael R. Johnson,

Deputy Director, Office of Nuclear Regulatory Research.

[FR Doc. E7–20742 Filed 10–19–07; 8:45 am]

BILLING CODE 7590–01–P

OFFICE OF PERSONNEL MANAGEMENT

SES Performance Review Board

AGENCY: Office of Personnel Management.

ACTION: Notice.

SUMMARY: Notice is hereby given of the appointment of members of the OPM Performance Review Board.

FOR FURTHER INFORMATION CONTACT: Mark Reinhold, Center for Human Capital Management Services, Office of Personnel Management, 1900 E Street, NW., Washington, DC 20415, (202) 606–1402.

SUPPLEMENTARY INFORMATION: Section 4314(c)(1) through (5) of Title 5, U.S.C., requires each agency to establish, in accordance with regulations prescribed by the U.S. Office of Personnel Management, one or more SES performance review boards. The board reviews and evaluates the initial appraisal of a senior executive's performance by the supervisor, and considers recommendations to the appointing authority regarding the performance of the senior executive.

U.S. Office of Personnel Management.

Linda M. Springer,

Director.

The following have been designated as members of the Performance Review Board of the U.S. Office of Personnel Management:

Howard C. Weizmann, Deputy Director—Chair
Patricia L. Hollis, Chief of Staff and Director of External Affairs
Mark Reger, Chief Financial Officer
Robert F. Danbeck, Managing Director, Retirement Systems Modernization
Nancy H. Kichak, Associate Director, Strategic Human Resources Policy Division
Kevin E. Mahoney, Associate Director, Human Capital Leadership and Merit System Accountability Division
Kathy L. Dillaman, Associate Director, Federal Investigative Services Division
Ronald C. Flom, Associate Director, Management Services Division and Chief Human Capital Officer
Kerry B. McTigue, General Counsel
Mark D. Reinhold, Deputy Associate Director for Human Capital Management Services—Executive Secretariat

[FR Doc. E7–20636 Filed 10–19–07; 8:45 am]

BILLING CODE 6325–45–P

SECURITIES AND EXCHANGE COMMISSION

[Release No. 39–2449; File No. 22–28859]

Application and Opportunity for Hearing: Grupo Iusacell Celular, S.A. de C.V.

October 15, 2007.

The Securities and Exchange Commission gives notice that Grupo Iusacell Celular, S.A. de C.V. has filed an application under section 304(d) of the Trust Indenture Act of 1939. Iusacell Celular asks the Commission to exempt from the certificate or opinion delivery requirements of section 314(d) of the 1939 Act certain provisions of indentures between Iusacell Celular, certain guarantors and Law Debenture Trust Company of New York, as trustee. The indentures relate to Senior Floating Rate First Lien Notes due 2011 and 10% Senior Subordinated Second Lien Notes due 2012.

Section 304(d) of the 1939 Act, in part, authorizes the Commission to exempt conditionally or unconditionally any indenture from one or more provisions of the 1939 Act. The Commission may provide an exemption under Section 304(d) if it finds that the exemption is necessary or appropriate in the public interest and consistent with the protection of investors and the purposes fairly intended by the 1939 Act.

Section 314(d) requires the obligor to furnish to the indenture trustee certificates or opinions of fair value from an engineer, appraiser or other expert upon any release of collateral from the lien of the indenture. The engineer, appraiser or other expert must opine that the proposed release will not impair the security under the indenture in contravention of the provisions of the indenture. The application requests an exemption from Section 314(d) for specified dispositions of collateral that are made in Iusacell Celular's and the guarantors' ordinary course of business.

In its application, Iusacell Celular alleges that:

1. The indentures permit Iusacell Celular and the guarantors to dispose of collateral in the ordinary course of their business;
2. Iusacell Celular and the guarantors will deliver to the trustee annual consolidated financial statements audited by certified independent accountants; and
3. Iusacell Celular and the guarantors will deliver to the trustee a semi-annual certificate stating that all dispositions of collateral during the relevant six-month period occurred in Iusacell Celular's and the guarantors' ordinary course of business and that all of the proceeds were used as permitted by the indentures.

Any interested persons should look to the application for a more detailed statement of the asserted matters of fact and law. The application is on file in the Commission's Public Reference Section, File Number 22–28859, 100 F Street, NE., Washington, DC 20549.

The Commission also gives notice that any interested persons may request, in writing, that a hearing be held on this matter. Interested persons must submit those requests to the Commission no later than November 14, 2007. Interested persons must include the following in their request for a hearing on this matter:

—The nature of that person's interest;
—The reasons for the request; and
—The issues of law or fact raised by the application that the interested person desires to refute or request a hearing on.

The interested person should address this request for a hearing to: Nancy M. Morris, Secretary, Securities and Exchange Commission, 100 F Street, NE., Washington, DC 20549–1090. At any time after November 14, 2007, the Commission may issue an order granting the application, unless the Commission orders a hearing.

For the Commission, by the Division of Corporation Finance, pursuant to delegated authority.

Florence E. Harmon,

Deputy Secretary.

[FR Doc. E7–20782 Filed 10–19–07; 8:45 am]

BILLING CODE 8011–01–P

SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–56662; File No. SR–ISE–2007–71]

Self-Regulatory Organizations; International Securities Exchange, LLC; Notice of Filing of a Proposed Rule Change Relating to Fee Changes on a Retroactive Basis

October 16, 2007.

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (''Act'') [1] and Rule 19b–4 thereunder,[2] notice is hereby given that on October 2, 2007, the International Securities Exchange, LLC (''ISE'' or ''Exchange'') filed with the Securities and Exchange Commission (''Commission'') the proposed rule change as described in Items I, II, and III below, which Items have been substantially prepared by the Exchange. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The Exchange proposes to retroactively apply the fee reduction that was implemented on September 4, 2007 to the time period of July 1, 2007 to August 31, 2007 (''Retroactive Period''). The text of the proposed rule change is available at the Commission's Public Reference Room, at the Exchange, and at *www.ise.com.*

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the Exchange included statements concerning the purpose of, and basis for the proposed rule change, and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The Exchange has prepared summaries, set forth in Sections A, B, and C below, of the most significant aspects of such statements.

A. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

1. Purpose

On September 4, 2007, the Exchange implemented a fee reduction to the Schedule of Fees with respect to Electronic Access Member (''EAM'') Trading Application Software Fees (''Software Fees'').[3] Consequently, the Software Fees are as follows:

- Equity EAMs are charged $250 for each of the first and second connections and $50 for each additional connection thereafter, regardless of whether the Equity EAM is connected via Financial Information eXchange (''FIX'') or Application Programming Interface (''API'').[4]
- Options EAMs that connect via API are charged $250 for each of the first five connections and $100 for each additional connection.
- Options EAMs that connect via FIX are charged $250 for each of the first and second connections and $50 for each additional connection thereafter.

In this filing, the Exchange proposes to retroactively apply the above-mentioned reduced fees during the Retroactive Period. The Exchange believes that retroactive application is appropriate for Equity EAMs because prior to July 1, 2007, Equity EAMs were charged a fee of $250 per month to connect to the ISE Stock Exchange, and fees on second and subsequent connections were waived, regardless of whether the Equity EAM connected via FIX or API.[5] The Exchange allowed this waiver to expire on June 30, 2007, at which time the fee to connect to the ISE Stock Exchange, on a monthly basis, became $250 per connection. Subsequent to the fee increase, the Exchange analyzed the impact of the fee increase on Equity EAMs and determined that the disparity between the increase in fees and the additional work required to assist the Equity EAMs in maintaining additional lines to the Exchange was not accurately correlated. Accordingly, the Exchange believes it is appropriate to retroactively apply this reduction to the Schedule of Fees.

The Exchange believes that retroactive application is appropriate for Options EAMs because originally Options EAMs were charged $250 per month for each of the first five CLICK terminals, and $100 per month for each additional terminal. However, under a now expired pilot program previously adopted by the Exchange, Options EAMs' fees associated with a second and any subsequent CLICK terminals were waived. As a result, Options EAMs were only charged a $250 per month to connect to the Exchange. Earlier this year, once all existing CLICK terminals were decommissioned, the Exchange submitted a fee filing that, among other things, proposed to remove all references to CLICK terminals from its fee schedule.[6] In doing so, and after conducting an internal analysis of the impact of fees to members, the Exchange notes that the CLICK Fee Filing actually raised the connection fees for Options EAMs, contrary to what the Exchange intended. Thus, this filing seeks to remedy the mistake the CLICK Fee Filing has caused during the Retroactive Period by retroactively applying this reduction to the Schedule of Fees during the Retroactive Period.

2. Statutory Basis

The Exchange believes that the proposed rule change is consistent with Section 6(b)(4) of the Act,[7] which requires that an exchange have an equitable allocation of reasonable dues, fees, and other charges among its members and other persons using its facilities.

B. Self-Regulatory Organization's Statement on Burden on Competition

This proposed rule change does not impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act.

[1] 15 U.S.C. 78s(b)(1).

[2] 17 CFR 240.19b–4.

[3] *See* Securities Exchange Act Release No. 56379 (September 10, 2007), 72 FR 52591 (September 14, 2007) (SR–ISE–2007–79) (notice of filing and immediate effectiveness of a proposed rule change relating to fee changes).

[4] ISE uses an open API, which members program to in order to develop applications that send trading commands and/or queries to and receive broadcasts and/or transactions from the trading system. FIX is an industry-wide messaging standard protocol.

[5] *See* Securities Exchange Act Release No. 54897 (December 8, 2006), 71 FR 75593 (December 15, 2006) (SR–ISE–2006–76) (notice of filing and immediate effectiveness of a proposed rule change relating to ISE Stock Exchange fees).

[6] *See* Securities Exchange Act Release No. 55960 (June 26, 2007), 72 FR 36531 (July 3, 2007) (SR–ISE–2007–42) (the ''CLICK fee filing'').

[7] 15 U.S.C. 78f(b)(4).

C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received From Members, Participants, or Others

The Exchange has not solicited, and does not intend to solicit, comments on this proposed rule change. The Exchange has not received any unsolicited written comments from members or other interested parties.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 35 days of the date of publication of this notice in the **Federal Register** or within such longer period (i) as the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

A. By order approve such proposed rule change, or

B. Institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act. Comments may be submitted by any of the following methods:

Electronic Ccomments

- Use the Commission's Internet comment form (*http://www.sec.gov/rules/sro.shtml*); or
- Send an e-mail to *rule-comments@sec.gov*. Please include File Number SR–ISE–2007–71 on the subject line.

Paper Comments

- Send paper comments in triplicate to Nancy M. Morris, Secretary, Securities and Exchange Commission, 100 F Street, NE., Washington, DC 20549–1090.

All submissions should refer to File Number SR–ISE–2007–71. This file number should be included on the subject line if e-mail is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet Web site (*http://www.sec.gov/rules/sro.shtml*). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying in the Commission's Public Reference Room, 100 F Street, NE., Washington, DC 20549, on official business days between the hours of 10 a.m. and 3 p.m. Copies of such filing also will be available for inspection and copying at the principal office of the Exchange. All comments received will be posted without change; the Commission does not edit personal identifying information from submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number SR–ISE–2007–71 and should be submitted on or before November 13, 2007.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.[8]

Florence E. Harmon,

Deputy Secretary.

[FR Doc. E7–20783 Filed 10–19–07; 8:45 am]

BILLING CODE 8011–01–P

[8] 17 CFR 200.30–3(a)(12).

SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–56667; File No. SR–NFA–2007–04]

Self-Regulatory Organizations; National Futures Association; Notice of Filing and Immediate Effectiveness of Proposed Rule Change Regarding Compliance Rule 2–4: Misuse of Trade Secrets and Proprietary Information

October 17, 2007.

Pursuant to section 19(b)(7) of the Securities Exchange Act of 1934 (''Exchange Act''),[1] and Rule 19b–7 under the Exchange Act,[2] notice is hereby given that on August 20, 2007, National Futures Association (''NFA'') filed with the Securities and Exchange Commission (''Commission'') the proposed rule change described in Items I, II, and III below, which Items have been substantially prepared by NFA. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons. NFA also has filed the proposed rule change with the Commodity Futures Trading Commission (''CFTC'').

NFA, on August 17, 2007, submitted the proposed rule change to the CFTC for approval and invoked the ''ten-day'' provision of section 17(j) of the Commodity Exchange Act (''CEA'').[3] By letter dated September 5, 2007, the CFTC notified NFA of its determination not to review the proposed rule change.[4]

I. Self-Regulatory Organization's Description of the Proposed Rule Change

Text of Proposed Rule Changes Interpretive Notice NFA Compliance Rule 2–4: Misuse of Trade Secrets And Proprietary Information

National Futures Association (''NFA'') Compliance Rule 2–4 provides that Members and Associates shall observe high standards of commercial honor and just and equitable principles of trade in the conduct of their commodity futures business. Over the years, NFA's Board of Directors (''Board'') has provided guidance on certain issues to ensure that Members and Associates understand their responsibilities to observe just and equitable principles of trade and to act honestly, fairly, and in the best interests of customers.

Compliance Rule 2–4 prohibits Members and Associates from knowingly obtaining or seeking to obtain another Member's or Associate's confidential information or trade secrets without that person's permission. It also prohibits Members and Associates from knowingly or recklessly misusing confidential information or trade secrets in their possession. Although that rule does not seek to regulate business disputes between Members or to extend beyond commodity futures activities, it does reach conduct that could potentially harm customers.

Conduct that may violate Compliance Rule 2–4 includes:

- Misusing customer information, such as misappropriating social security numbers or purposefully violating the firm's privacy statement;
- Disclosing customer orders prior to execution (except as permitted by exchange rules); or
- Obtaining or attempting to obtain information disclosing a CTA's historical trading positions without the CTA's permission.

These are merely examples of conduct that could potentially harm customers. Any Member or Associate that knowingly obtains or seeks to obtain

[1] 15 U.S.C. 78s(b)(7).

[2] 17 CFR 240.19b–7.

[3] 7 U.S.C. 21(j).

[4] *See* letter from Lawrence B. Patent, Deputy Director, CFTC, to Thomas W. Sexton, III, General Counsel, NFA (''Letter'').

confidential information or trade secrets of another Member or Associate without that person's permission or that knowingly or recklessly misuses trade secrets and/or proprietary information in the conduct of its commodity futures business violates Compliance Rule 2–4.

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, NFA has prepared statements concerning the purpose of, and basis for, the proposed rule change, burdens on competition, and comments received from members, participants, and others. The text of these statements may be examined at the places specified in Item IV below. NFA has prepared summaries, set forth in sections A, B, and C below, of the most significant aspects of such statements.

A. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

1. Purpose

Section 15A(k) of the Exchange Act [5] makes NFA a national securities association for the limited purpose of regulating the activities of NFA members (''Members'') who are registered as brokers or dealers in security futures products under section 15(b)(11) of the Exchange Act.[6] The new interpretive notice applies to all Members, including those who are registered as security futures brokers or dealers under section 15(b)(11).

NFA Compliance Rule 2–4 requires Members and Associates to observe high standards of commercial honor and just and equitable principles of trade in the conduct of their commodity futures business. The proposed notice makes clear that Members and Associates violate NFA Compliance Rule 2–4 if they knowingly obtain or seek to obtain another Member's or Associate's confidential information or trade secrets without that person's permission or knowingly or recklessly misuse confidential information or trade secrets in their possession when these activities may harm futures customers. It also clarifies that this prohibition is limited to a Member's commodity futures business and does not reach into areas beyond NFA's normal jurisdiction.

The notice is narrowly drawn, focusing on behaviors that could harm customers. It gives three examples of behavior that violates the rule: (1) Misusing customer information, (2) disclosing customer orders, and (3) obtaining or attempting to obtain confidential information disclosing a CTA's historical trading positions.

2. Statutory Basis

The rule change is authorized by, and consistent with, Section 15A(k) of the Exchange Act.[7] This Section requires NFA to have rules that are designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, and, in general, to protect investors and the public interest in connection with security futures products. The proposed rule change accomplishes this by prohibiting the misuse of nonpublic information.

B. Self-Regulatory Organization's Statement on Burden on Competition

The rule change will not impose any burden on legitimate competition. It should, however, prevent Members from using illegitimate means to gain a competitive advantage when those means could harm customers.

C. Self-Regulatory Organization's Statement of Comments on the Proposed Rule Change Received From Members, Participants, or Others

NFA did not publish the rule change to the membership for comment but did discuss it with NFA's FCM, IB, and CPO/CTA Advisory Committees, which generally supported it. NFA did not receive comment letters concerning the rule change.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

NFA, on August 17, 2007, submitted the proposed Interpretive Notice entitled ''NFA Compliance Rule 2–4: Misuse of Trade Secrets and Proprietary Information'' to the CFTC for approval and invoked the ''ten-day'' provision of section 17(j) of the CEA.[8] The CFTC notified NFA of its determination not to review the proposed rule change.[9] The proposed rule change has become effective on September 5, 2007.

Within 60 days of the date of effectiveness of the proposed rule change, the Commission, after consultation with the CFTC, may summarily abrogate the proposed rule change and require that the proposed rule change be refiled in accordance with the provisions of section 19(b)(1) of the Exchange Act.[10]

IV. Solicitation of Comments

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Exchange Act. Comments may be submitted by any of the following methods:

Electronic Comments

- Use the Commission's Internet comment form (*http://www.sec.gov/rules/sro.shtml*); or
- Send an e-mail to *rule-comments@sec.gov.* Please include File Number SR–NFA–2007–04 on the subject line.

Paper Comments

- Send paper comments in triplicate to Nancy M. Morris, Secretary, Securities and Exchange Commission, 100 F Street, NE., Washington, DC 20549–1090.

All submissions should refer to File Number SR–NFA–2007–04. This file number should be included on the subject line if e-mail is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet Web site (*http://www.sec.gov/rules/sro.shtml*). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying in the Commission's Public Reference Room, 100 F Street, NE., Washington, DC 20549, on official business days between the hours of 10 a.m. and 3 p.m. Copies of such filing also will be available for inspection and copying at the principal office of NFA. All comments received will be posted without change; the Commission does not edit personal identifying information from submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number SR–NFA–2007–04 and should be submitted on or before November 13, 2007.

[5] 15 U.S.C. 78*o*–3(k).

[6] 15 U.S.C. 78*o*(b)(11).

[7] 15 U.S.C. 78*o*–3(k).

[8] 7 U.S.C. 21(j).

[9] *See* Letter, *supra* note 4.

[10] 15 U.S.C. 78s(b)(1).

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.[11]

Florence E. Harmon,

Deputy Secretary.

[FR Doc. E7–20784 Filed 10–19–07; 8:45 am]

BILLING CODE 8011–01–P

[11] 17 CFR 200.30–3(a)(75).

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

[Docket No. FAA–2007–29320]

Operating Limitations at New York's John F. Kennedy International Airport, Notice of Meeting and Request for Information

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of scheduling reduction meeting and request for information.

SUMMARY: The FAA will conduct a meeting to discuss flight restrictions at New York's John F. Kennedy International Airport (JFK) to reduce overscheduling and flight delays during peak hours of operation at that airport. This meeting is open to all scheduled air carriers, regardless of whether they currently provide scheduled service to JFK, and to the Port Authority of New York and New Jersey, which is the airport operator of JFK. Registration in advance of the meeting is requested. In addition, the FAA invites interested persons to submit written information on such schedule reductions. The FAA plans to issue its decision on scheduling limitations in a final order.

DATES: *Scheduling reduction meeting.* The FAA will hold the scheduling reduction meeting on October 23–24, 2007, beginning at 9 a.m., and the meeting may continue, if necessary, until adjourned by the Administrator.

Written information: Any written information on the subject of schedule reductions at JFK, including data and views, must be submitted by November 6, 2007. To the extent possible, the FAA will consider late-filled submissions in making its determination in its final order.

ADDRESSES: *Scheduling reduction meeting.* The meeting will be held in the Bessie Coleman Room at the Orville Wright Building of the FAA, 800 Independence Ave., SW., Washington, DC.

Written information. You may submit written information, identified by docket number FAA–2007–29320, by any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov* and follow the instructions for submitting your information or comments electronically.
- *Fax:* Fax comments to the Docket Management Facility at 1–202–493–2251.
- *Mail:* Send information or comments to the Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12–140, Washington, DC 20590.
- *Hand Delivery:* Bring information or comments to the Docket Management Facility in Room W12–140 of the West Building Ground Floor at the Department of Transportation, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Instructions:* You must include the agency name and docket number FAA–2007–29320 for this notice at the beginning of the information that you submit. Note that the information received will be posted without change to *http://www.regulations.gov*, including any personal information provided. Submissions to the docket that include trade secrets, confidential, commercial, or financial information, or sensitive security information will not be posted in the public docket. Such information will be placed in a separate file to which the public does not have access, and a note will be placed in the public docket to state that the agency has received such materials from the submitter.

Privacy: We will post all comments we receive, without change, including any personal information you provide. Using the search function of the docket Web site, anyone can find and read the electronic form of all comments received into any of our dockets, including the name of the individual sending or signing the comment. You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477–78).

Docket: To read background documents or comments received, go to *http://www.regulations.gov* at any time and follow the online instructions for accessing the docket. Alternatively, you may visit the Docket Management Facility in Room W12–140 of the West Building Ground Floor of the Department of Transportation at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Registration: To register for attendance, contact Gerry Shakley at the numbers provided in the **FOR FURTHER INFORMATION CONTACT** section of this notice.

FOR FURTHER INFORMATION CONTACT: Gerry Shakley, System Operations Services, Air Traffic Organization; telephone—(202) 267–9424; facsimile—(202) 267–7277; e-mail—*gerry.shakly@faa.gov.* Registration must occur on or before October 19, 2007.

SUPPLEMENTARY INFORMATION: The Federal Aviation Act (the Act) at 49 U.S.C. 41722, authorizes the Secretary of Transportation to request air carriers to attend a meeting with the FAA Administrator to discuss flight schedule reductions at any severely congested airport during peak operating hours.

Until relatively recently, the FAA managed congestion at JFK through the High Density Rule (HDR), 14 CFR part 93, subpart K, which limited aircraft operations at JFK during the five hours of peak transatlantic demands—3 p.m. through 7:59 p.m. local time.

The HDR is an air traffic rule that establishes limited on the number of arrivals and departures that can occur from certain airports during specific, identified hours. The HDR limits flights in order to manage congestion and delays. Currently, only Washington's Reagan National Airport is regulated under the HDR. The HDR was formerly effective at Chicago O'Hare International Airport (O'Hare), New York's JFK New York's LaGuardia airport (LaGuardia), and Newark's Liberty International Airport (Newark).

In 2000, Congress, under the aviation Investment and Reform Act for the 21st Century (AIR–21), called for the phase out of the HDR program at O'Hare, LaGuardia and JFK.[1]

The HDR was phased out at JFK as of January 1, 2007, permitting increased scheduling at JFK during the afternoon hours.[2] In addition, since the spring of 2006, JFK has evolved from its traditionally international role, as U.S. air carriers have significantly increased their domestic scheduled operations throughout the day. Most of the increase has come from the two largest operators at the airport, Delta airlines and JetBlue Airways.

As a result of the increase in scheduled operations at JFK, demand exceeds the airport's capacity during some periods of the day. During the morning hours, JFK routinely incurs volume-related delays during the 7 a.m. through 9 a.m. hours. The afternoon and evening demand at JFK now exceeds the

[1] Newark has not been impacted by the HDR since the early days of its inception.

[2] Since the expiration of the HDR, the FAA reinstituted caps at O'Hare, by rule, and at LaGuardia, by FAA order.

airport's optimal capacity until nearly 10 p.m., denying the airport a late-day period to recover from congestion-related delays. Traffic management initiates to accommodate the traffic are now routinely in use, even under the best operating conditions.

In addition, the relatively pronounced arrival and departure banks that historically characterized JFK's operations are now supplanted by mixed arrivals and departures during peak hours. Although JFK has four runways, it is limited, at most, to a three-runway configuration due to the shared airspace in the New York area. JFK's maximum efficiency is achieved using either two arrival runways and one departure runway or two departure runways and one arrival runway. The recent mixing of arrivals and departures throughout the day reduces the benefit of optimizing the configuration of active runways to favor arrivals or departures, as appropriate, which is a practice that air traffic control personnel previously employed to tailor JFK's runway configuration to the historical transatlantic traffic flows.

The increase in scheduled operations at JFK has had a profound effect on the delays that travelers have experienced there. During the first nine months of fiscal year 2007, the average daily operations at JFK increased 23% over the same period in the previous year. Travelers experienced an average twenty-six minutes of gate arrival delay per flight, which is an increase from the average eighteen-minute delay during the same period in fiscal year 2006. The number of arrival delays exceeding one hour has increased by 114%. The on-time arrival performance at JFK, which is defined as arrival at the gate within fifteen minutes of the scheduled time, declined from 70% in the first ten months of fiscal year 2006 to 61% over the same period in fiscal year 2007. During June and July 2007, JFK's on-time arrival performance averaged 59%. At the same time, air carriers continued to announce new flights for JFK during peak and off-peak hours.

The increased congestion and delays at JFK have had impacts on other airports in the region and on the National Airspace System. Newark, LaGuardia and JFK have consistently been among the most delay-prone airports. While operations at LaGuardia and Newark have been relatively stable over the past year, JFK's operations have increased significantly, creating new challenges to accommodate demand safely and with minimal delay. The recently approved airspace redesign plan for the New York/New Jersey/Philadelphia metropolitan area documents well the costs and far-reaching impacts of delays that originate from this area. Although airspace redesign will provide efficiency gains and congestion relief, it is neither an immediate nor complete solution.

The FAA, working with the airport operator, carriers and other customer representatives, has begun to implement a number of short-term initiatives to improve the efficiency of airport operations and the air traffic control system, especially during periods of adverse weather when the effects of overscheduling are more pronounced. Moreover, airspace redesign will open additional arrival and departure routes in the New York area to reduce delays and congestion. These measures alone, however, are not expected to provide sufficient near-term gains to accommodate the peak hour schedules at JFK's current or forecast levels of demand.

Several air carriers have indicated to the FAA their willingness to adjust their schedules during peak hours to improve on-time performance, reduce congestion, and reduce delay-related operational costs. These carriers cite the experience at O'Hare in 2004 when the FAA had a voluntary agreement to twice reduce schedules by American Airlines and United Airlines, the largest operators at that airport, but ultimately convened a scheduling reduction meeting under 49 U.S.C. 41722 so that other carriers did not simply backfill schedule reductions and negate congestion relief. The FAA finds merit in these arguments as we did in the case of O'Hare.

Based on these and other factors, the Administrator has determined, pursuant to the Act, that JFK is a severely congested airport and that a scheduling reduction meeting is necessary in order to discuss flight reductions in an effort to reduce overscheduling and flight delays at JFK during peak operating hours. The Secretary of Transportation has also determined, pursuant to the Act, that a scheduling reduction meeting regarding flight reductions at JFK is necessary to meet a serious transportation need or to achieve an important public benefit. In light of these determinations, the FAA will conduct a scheduling reduction meeting pursuant to the Act.

As dictated by statute, the scheduling reduction meeting will only address planned operations by domestic air carriers. With the exception of Canadian air carriers, which are treated as domestic air carriers by virtue of an agreement with Canada, the scheduled operations of foreign air carriers are managed under a process defined by the International Air Transport Association (IATA). The FAA has already initiated steps under the IATA process to manage the scheduled operations of foreign air carriers at JFK that are complementary to the scheduling reduction meeting.

The FAA will convene the scheduling reduction meeting on October 23, 2007, beginning at 9 a.m., and will continue at least through the following day. The meeting may continue, if necessary, until adjourned by the Administrator. As provided in the Act, no later than forty-eight hours before convening the meeting, the FAA will identify on the FAA's Web site, *http://www.faa.gov,* the peak period of operation at JFK and the FAA's targets for flight operations during those periods.

The FAA will transcribe the scheduling reduction meeting, including those sessions in which air carriers offer flight reductions to the FAA, as provided for by the procedures outlined below. The transcript and other documents related to the meeting will be available for inspection in Department of Transportation Docket FAA–2007–29320. In addition, any interested person may submit written information to the public docket no later than November 6, 2007. The docket may be accessed via the Internet at *http://www.regulations.gov* or at the Docket Management Facility for the Department of Transportation.

After conducting the scheduling reduction meeting and considering all submitted information, the FAA will publish its final order on delay reductions at JFK in the **Federal Register**. The order is expected to be effective through at least the summer 2008 scheduling season and may restrict service during peak hours by all carriers, including carriers that are not currently operating at JFK.

Additionally, the FAA is considering appropriate measures to address charters and other unscheduled flights at JFK. Under the HDR, unscheduled operations were severely constrained during the afternoon hours at JFK. Specifically, only two unscheduled operations were permitted in each afternoon hour other than the 1700 hour (5 p.m.), when no unscheduled operations were permitted. Likewise, unscheduled operations at O'Hare have been restricted to four per hour since the imposition of Arrival Authorizations at that airport in 2004.

To ensure that proper accommodations are afforded at the meeting, all scheduled carriers that wish to attend the scheduling reduction meeting should register for the meeting on or before October 19, 2007. Registration may be accomplished by

contacting Gerry Shakley, System Operations Services, Air Traffic Organization; telephone—(202) 267–9424; facsimile—(202) 267–7277; e-mail—*gerry.shakley@faa.gov,* identifying the air carrier and its intention to attend the meeting, and identifying who will represent the air carrier at the meeting.

The FAA is currently conducting modeling based on the August 30, 2007 published schedule information from the Official Airline Guide. We will review the planned schedules for summer 2008, which carriers were to provide by October 11, 2007 (72 FR 54317, September 24, 2007). The FAA's Air Traffic Organization will work with individual carriers to validate the schedule information to be used by the FAA during the course of the scheduling reduction meeting.

Because the scheduling reduction meeting and all preparations for it are subject to the U.S. antitrust laws, the FAA has worked closely with the Department of Justice, Antitrust Division, on procedures for conducting the meeting in a way that should facilitate legal compliance. As noted in this correspondence, communications among carriers regarding competitively sensitive information could result in a violation of the antitrust laws and lead to civil or criminal liability. Thus, the procedures outlined in the notice provide for a series of scheduling reduction sessions to be conducted separately by FAA staff with each air carrier attending the meeting. We may also meet with representatives of the airport operator. During those sessions any scheduled air carrier or the airport operator in attendance may provide other supplemental information to the FAA regarding the targeted schedule reductions at JFK. The FAA requests the cooperation of all participants at the meeting in adhering to the procedures outlined in the notice.

The text of the FAA letter describing the planned procedures and the text of the Department of Justice letter assessing those procedures are as follows:

September 21, 2007

Thomas O. Barnett, Esq., Assistant Attorney General, Antitrust Division, Room 3109, U.S. Department of Justice, 950 Pennsylvania Avenue, NW., Washington, DC 20530-0001.

Dear Mr. Barnett:

We anticipate that the Secretary of Transportation will soon determine, pursuant to 49 U.S.C. 41722,[3] that it is necessary to convene a meeting of air carriers with the Administrator of the Federal Aviation Administration (FAA) to discuss flight reductions at New York's John F. Kennedy International Airport (JFK) in an effort to reduce overscheduling and flight delays during peak hours of operation. Because of severe congestion at that airport and the resulting delays and inconveniences to the traveling public, the Administrator intends to convene such a meeting in the immediate future. The purpose of this letter is to describe the format and procedures for the meeting and to ensure that, provided the meeting is conducted in accordance with this letter, the Department of Justice would not seek to challenge as a violation of the U.S. Antitrust laws any air carrier's attendance at or participation in the meeting or an air carrier's unilateral actions taken to comply with an Order of the Administrator issued as a result of the meeting.

Meeting Procedures

1. *Notice to Air Carriers and Other Interested Parties*

To assist the Administrator in formulating flight reduction targets, as contemplated by 49 U.S.C. 41722, and to identify the air carriers that will attend the meeting, the Administrator will send a letter notifying the JFK airport operator and each scheduled air carrier serving JFK of the meeting. The letter will describe the necessity for the meeting and will identify the periods during a representative business day that the Administrator considers severely congested. The letter also will establish either the date and time for the meeting or a period during which the meeting is expected to take place. It will designate a location in the Washington, DC area as the meeting's location. The letter will advise that the meeting and all preparations for it are subject to the antitrust laws and that communication among air carriers regarding competitively sensitive information, such as markets served, prices charged, and marketing plans, could result in a violation of the antitrust laws. Copies of the letter will be sent to the Antitrust Division, as well as to the Air Transport Association, Regional Airline Association, and Air Carrier Association of America.

The FAA Air Traffic Organization (ATO) will separately provide the JFK airport operator and each air carrier serving JFK with a summary showing the FAA's current information as to scheduled arrivals and departures at JFK (including code-share flights) for each air carrier during each 15 minute period from 6 a.m. to 11 p.m. on a representative business day. The FAA's focus on these hours is for overall planning purposes only, and it does not necessarily reflect the peak hours of operation at JFK. A letter enclosed with this summary will request that each air carrier confirm the FAA's current information as to that air carrier's scheduled operations at JFK, respond as to whether the air carrier will attend the scheduling reduction meeting, and, if the air carrier will attend, identify its representative.

The FAA also will publish in the **Federal Register** a notice of the meeting that identifies the basis for the meeting, when and where the meeting will take place, and the manner in which the meeting will be conducted. The **Federal Register** notice will invite all scheduled air carriers to attend and will specify that a transcript of the meeting will be available for inspection in a public docket opened within three business days after the Administrator formally adjourns the scheduling reduction meeting.

2. *Establishment and Notice of Flight Reduction Targets*

The Administrator shall establish flight reduction targets, based on the number of flight operations scheduled for a representative business day. As required by the statute, at least 48 hours prior to the meeting, the Administrator will publish notice of these targets on the FAA's Web site. The notice will specify the total number of reductions sought from the total number of flight operations conducted. The notice will not include carrier-specific limitations, targets, or suggested reductions.

3. *Conduct of the Meeting*

The meeting will be conducted under the following procedures:

a. The meeting will be chaired by the Administrator or by a delegate of the Administrator.

b. The meeting will be open to attendance by the JFK airport operator and all scheduled air carriers, and the FAA will transcribe the meeting.

c. Representatives of the Department of Justice will be invited to attend.

d. At the beginning of the meeting, the FAA will announce that, pursuant to advice from the Department of Justice, no communication will be permitted by any air carrier representative in the presence of any representative of another air carrier regarding the subject of flight reductions at JFK or regarding any other competitively sensitive information, including but not limited to markets served, prices charged, and marketing plans.

[3] [The text of a footnote quoting 49 U.S.C. 41722 is omitted her.]

e. The Administrator will then distribute to the meeting's attendees a list of the number of flights, not specific as to air carrier, during each 15-minute period from 6 a.m. until 11 p.m. on a representative business day, and he will identify any periods that he considers severely congested, as well as general targets for flight reductions during those periods. This list will not include carrier-specific limitations, targets, or suggested reductions.

f. Each air carrier serving JFK and attending the meeting will then be invited into a separate and confidential session with representatives of the ATO, at which the air carrier will be asked to offer flight reductions or schedule modifications. Only representatives of that air carrier and the U.S. government will be permitted to attend the offer sessions; however, the sessions will be transcribed.

g. Any offer of flights reductions should specify the precise number of arrivals and departures, if any, the submitting air carrier is willing to remove from each of the severely congested periods identified by the Administrator, indicating whether the flight operation(s) would be cancelled or moved to another time period. The offer may not be explicitly contingent on specific flight reductions by other air carriers but may be conditioned on the Administrator's implementation of an overall reduction of specified numbers of flight operations toward the target during the periods in question. The offer may not contain information from the air carrier on markets served, prices charged, marketing plans or other competitively sensitive matters.

h. After the completion of all such sessions, the ATO will: (1) Review the offers made; (2) revise, in light of the offers made, the list of the number of flights, not specific as to air carrier, during each 15-minute period from 6 a.m. until 11 p.m. on a representative business day; and (3) consult with the Administrator. The Administrator will distribute to the meeting's attendees the carrier non-specific list of the number of flights on a representative business day, and he will identify any periods that he continues to consider severely congested and identify targets for flight reductions during those periods.

i. At his discretion, the Administrator or his delegate may repeat steps (f) through (h), and he may continue the schedule reduction meeting as he deems necessary.

j. If the Administrator determines that identifying carrier-specific targets would facilitate voluntary flight reductions and schedule modifications, the Administrator may advise each air carrier separately and confidentially of flight reduction targets specific to that air carrier. No carrier-specific information will be provided to any air carrier other than information regarding that air carrier; however, the Administrator may make general assurances with respect to the overall proportionality of the flight reductions among the air carriers serving JFK.

k. Following the Administrator's identification of further flight reduction targets, each air carrier attending the meeting that serves JFK will be invited to a separate and confidential session with representatives of the ATO, at which the air carrier will be given the opportunity to submit a new or revised offer of flight reductions or schedule modifications.

l. At his discretion, the Administrator or his delegate may repeat steps (j) and (k), and he may continue the schedule reduction meeting as he deems necessary.

m. The Administrator may terminate the schedule reduction meeting at his discretion.

4. *Order of the Administrator Concerning Delays at JFK*

The ATO will review the final offers of each air carrier attendee of the meeting and recommend a proposed flight reduction plan to the Administrator. After the Administrator's review and approval of the plan, the resulting schedule reductions, including carrier-specific limitations, will be published in the **Federal Register** as a final order of the Administrator. The final order of the Administrator will specify a method by which air carriers adversely affected by the order may be relieved of its effect. The order will also be subject to modification by the Administrator.

Please advise if the procedures are acceptable to you.

Sincerely,

Kerry B. Long, Chief Counsel

September 24, 2007

Kerry B. Long, Esq., Chief Counsel, U.S. Department of Transportation, Federal Aviation Administration, 800 Independence Ave, SW., Washington, DC 20591.

Re: Proposed JFK Airport Delay Reduction Meeting

Dear Mr. Long:

This letter is written in response to your September 21, 2007 letter describing the planned format of a meeting of air carriers with the Administrator of the Federal Aviation Administration (''FAA'') to discuss flight reductions at New York's John F. Kennedy International Airport (''JFK''). The meeting is being called because the Secretary of Transportation has determined, pursuant to 49 U.S.C. 41722, that the meeting is necessary to reduce flight delays during peak hours of operation. You seek assurances that, provided the meeting and related activities are conducted as described in your letter, the Department of Justice would not seek to challenge as a violation of the antitrust laws any air carrier's attendance at or participation in the meeting or any carrier's unilateral actions taken to comply with an Order of the Administrator issued as a result of the meeting.

According to your letter, all carriers participating in the meeting will be advised that the meeting and all preparations for it are subject to the antitrust laws and that communications among carriers regarding competitively sensitive information, such as markets served, prices charged, and marketing plans, could result in a violation of the antitrust laws and lead to civil or criminal liability. At the beginning of the meeting, the Administrator (or his delegee) will announce that, pursuant to advice from the Department of Justice, no communication will be permitted by any air carrier representative in the presence of any representative of another air carrier regarding flight reductions at JFK or any other competitively sensitive subject, including but not limited to markets served, prices charged, and marketing plans.

Prior to the meeting, the Administrator will establish flight reduction targets, based on the number of flight operations scheduled on a representative business day. The Administrator will publish notice of these targets on the FAA Web site at least 48 hours prior to the meeting, as required by statute. The notice will specify the total number of reductions to be sought from the total number of flight operations conducted. The notice will not include carrier-specific limitations, targets or suggested reductions.

At the meeting, the Administrator will distribute a list of flights currently scheduled each 15-minute period from 6 a.m. to 11 p.m., indicate any periods that he considers to be severely congested, and provide general targets for flight reductions during those periods, which will not identify which carriers flights are targeted to be moved or eliminated. Each carrier will then be invited into a separate, confidential discussion with the Administrator during which the carrier will be asked to offer specific flight reductions or scheduled, changes, which shall *not* be

contingent on reductions offered by another carrier or carriers.

After completion of the individual carrier sessions, the Administrator will revise the list of flights to reflect the individual discussions with the carriers. The carriers will again be given this list which will not identify flights by carrier. If the Administrator believes that severely congested time periods still exist, he may set revised targets and repeat the individual sessions with carriers.

If the Administrator determines that identifying carrier-specific targets is necessary to facilitate voluntary flight reductions and schedule modifications, he may advise each carrier separately and confidentially of flight reduction targets specific to that carrier, which information will *not* be given to any other carrier or carriers. The Administrator may also make a general assurance with respect to the overall proportionality of the flight reductions being sought by the FAA from carriers serving JFK.

The Administrator will develop and approve a proposed flight reduction plan and schedule reduction, which will be published in the **Federal Register** as a final order.

Importantly, the procedures do not provide for any meetings among the carriers without the FAA present. The procedures will not allow any discussion or negotiation among carriers about flight reductions, prices charged, or markets served. During the course of the meetings, carriers will not be told schedule reductions or modifications other carriers are offering or being asked to offer.

For these reasons, the Department is not presently inclined to initiate antitrust enforcement action against any carrier that participates in the FAA's flight reduction meeting and conducts itself in the manner described in your September 21 letter. This expresses the Department's current enforcement intention regarding the carriers' participation in the flight reductions meeting. The Department reserves the right to bring an enforcement action against any conduct that violated the antitrust laws.

Yours sincerely,

Thomas O. Barnett

Issued in Washington, DC, on October 16, 2007.

Kerry B. Long,

Chief Counsel.

[FR Doc. 07–5177 Filed 10–16–07; 4:31 pm]

BILLING CODE 4910–13–M

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement: Calvert and St. Mary's Counties, Maryland

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of intent.

SUMMARY: The FHWA is issuing this notice to advise the public that an Environmental Impact Statement will be prepared for a proposed roadway widening and bridge replacement project in Calvert and St. Mary's Counties, Maryland. The purpose of the EIS is to provide information and analyses for decisions on the project in accordance with the policies and purposes of the National Environmental Policy Act.

FOR FURTHER INFORMATION CONTACT: Mr. Daniel W. Johnson, Environmental Program Manager, Federal Highway Administration, City Crescent Building, 10 South Howard Street, Suite 2450, Telephone (410) 779–7154.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Maryland State Highway Administration, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Coast Guard, and Maryland Department of the Environment will prepare an environmental impact statement (EIS) to improve MD 4 from MD 2 to MD 235 in Calvert and St. Mary's Counties, a distance of approximately 2.91 miles.

Improvements to the corridor are necessary to improve existing capacity and traffic operations, and to increase vehicular, pedestrian and bicycle safety along MD 4, while supporting existing and planned development in the area. Improvements to the bridge are necessary due to inadequate shoulder widths, major traffic delays and/or closures currently occur along the Thomas Johnson Memorial Bridge during crashes and maintenance activities. In addition, the crash rate on MD 4 from FDR Boulevard to MD 235, as well as the rear end collision rate across the Thomas Johnson Memorial Bridge, is greater than the statewide average.

Alternatives under consideration include taking no action and widening existing MD 4 to a four lane divided highway, with various options for bridge improvements and/or reconstruction.

Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State, and local agencies, and to private organizations and citizens and citizen groups who have previously expressed or are known to have an interest in this proposal. It is anticipated that a Public Hearing will be held in the Fall of 2009. The draft EIS will be available for public and agency review and comment prior to a Public Hearing. Public notice will be given of the availability of the Draft EIS for review and of the time and place of this hearing. A Scoping Meeting was held in May of 2007, and two Open House Workshops will be held in October 2007 to solicit opinions and ideas on proposed improvements from local citizens.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning these proposed actions and EIS should be directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Research, Planning and Construction. The regulation implementing Executive Order 12372 regarding intergovernmental consultation of Federal programs and activities apply to this program)

Issued on: October 10, 2007.

Daniel W. Johnson,

Environmental Program Leader, Baltimore, Maryland.

[FR Doc. 07–5190 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–22–M

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Notice of Final Federal Agency Actions on Proposed Highways in Washington

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of limitation on claims for judicial review of actions by FHWA and other federal agencies.

SUMMARY: This notice announces actions taken by the FHWA and other Federal agencies that are final within the meaning of 23 U.S.C. 139(l)(1). The actions relate to a proposed highway project, SR 167 Extension Project Puyallup to SR 509 in Pierce County, Washington. Those actions grant licenses, permits, and approvals for the project.

DATES: By this notice, the FHWA is advising the public of final agency actions subject to 23 U.S.C. 139(l)(1). A claim seeking judicial review of the Federal agency actions on the highway

project will be barred unless the claim is filed on or before April 21, 2008. If the Federal law that authorizes judicial review of a claim provides a time period of less than 180 days for filing such claim, then that shorter time period still applies.

FOR FURTHER INFORMATION CONTACT: Bryan Dillon, Area Engineer, Federal Highway Administration Washington Division, 711 South Capitol Way, Suite 501, Olympia, WA 98501. Office hours are 8 a.m. to 4 p.m. Pacific Time, (360) 753–9556, *Bryan.Dillon@fhwa.dot.gov.* You may also contact Steve Fuchs, SR 167 Project Manager, Washington State Department of Transportation (WSDOT), 1011 10th Avenue SE., Olympia, WA 98501. Office hours are 8 a.m. to 5 p.m. Pacific Time, (360) 709–8100, *fuchss@wsdot.wa.gov.*

SUPPLEMENTARY INFORMATION: Notice is hereby given that the FHWA and other Federal agencies have taken final agency actions by issuing a Record of Decision (ROD) and approvals for the following highway project in the State of Washington. When completed, the SR 167 Extension project will replace the existing arterial route that follows River Road with six miles of new freeway north of the Puyallup River. This will complete the existing SR 167 from State Route 161 in Puyallup to Interstate 5 in Fife, with a connection to State Route 509 near the Port of Tacoma. When construction funding is secured, the project will be built in stages as money becomes available. The actions by the Federal agencies, and the laws under which such actions were taken, are described in the November 2006 Final Environmental Impact Statement (FEIS) and the October 2, 2007 ROD, and in other documents in the FHWA administrative record. The FEIS, ROD, and other documents in the FHWA administrative record are available by contacting the FHWA or WSDOT at the addresses provided above. The FEIS and ROD can also be viewed and downloaded from the project Web site at *http://www.wsdot.wa.gov/Projects/SR167/TacomaToEdgewood/* or viewed at public libraries in the project area. Since federal funding is not currently available for this project, an FHWA project number has not been established.

This notice applies to all Federal agency decisions on the listed projects as of the issuance date of this notice and all laws under which such actions were taken, including but not limited to:

1. *General:* National Environmental Policy Act [42 U.S.C. 4321–4351]; Federal-Aid Highway Act [23 U.S.C. 109].

2. *Air:* Clean Air Act, as amended [42 U.S.C. 7401–7671(q)].

3. *Land:* Section 4(f) of the Department of Transportation Act of 1966 [49 U.S.C. 303]; Landscaping and Scenic Enhancement (Wildflowers) [23 U.S.C. 319].

4. *Wildlife:* Endangered Species Act [16 U.S.C. 1531–1544]; Anadromous Fish Conservation Act [16 U.S.C. 757(a)–757(g)]; Fish and Wildlife Coordination Act [16 U.S.C. 661–667(d)]; Magnuson-Stevenson Fishery Conservation and Management Act of 1976, as amended [16 U.S.C. 1801 *et seq.*].

5. *Historic and Cultural Resources:* Section 106 of the National Historic Preservation Act of 1966, as amended [16 U.S.C. 470(f) *et seq.*]; Archaeological Resources Protection Act of 1977 [16 U.S.C. 470(aa)-11]; Archaeological and Historic Preservation Act [16 U.S.C. 469–469(c)]; Native American Grave Protection and Repatriation Act [25 U.S.C. 3001–3013].

6. *Social and Economic:* Civil Rights Act of 1964 [42 U.S.C. 2000(d)–2000(d)(1)]; American Indian Religious Freedom Act [42 U.S.C. 1996]; Farmland Protection Policy Act [7 U.S.C. 4201–4209]; the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended [42 U.S.C. 61].

7. *Wetlands and Water Resources:* Clean Water Act, 33 U.S.C. 1251–1377 (Section 404, Section 401, Section 319); Coastal Zone Management Act [16 U.S.C. 1451–1465]; Land and Water Conservation Fund [16 U.S.C. 4601–4604]; Safe Drinking Water Act [42 U.S.C. 300(f)–300(j)(6)]; Rivers and Harbors Act of 1899 [33 U.S.C. 401–406]; TEA–21 Wetlands Mitigation [23 U.S.C. 103(b)(6)(m), 133(b)(11)]; Flood Disaster Protection Act [42 U.S.C. 4001–4128].

8. *Hazardous Materials:* Comprehensive Environmental Response, Compensation, and Liability Act [42 U.S.C. 9601–9675]; Superfund Amendments and Reauthorization Act of 1986 [PL 99–499]; Resource Conservation and Recovery Act [42 U.S.C. 6901–6992(k)].

9. *Executive Orders:* E.O. 11990 Protection of Wetlands; E.O. 11988 Floodplain Management; E.O. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations; E.O. 11593 Protection and Enhancement of Cultural Resources; E.O. 13007 Indian Sacred Sites; E.O. 13287 Preserve America; E.O. 13175 Consultation and Coordination with Indian Tribal Governments; E.O. 11514 Protection and Enhancement of Environmental Quality; E.O. 13112 Invasive Species.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Authority: 23 U.S.C. 139(l)(1).

Issued on: October 5, 2007.

Bryan Dillon,

Area Engineer, Olympia, Washington.

[FR Doc. E7–20694 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–RY—P y

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA–2007–0007]

Notice of Receipt of Petition for Decision That Nonconforming 1988 Ducati 851 Motorcycles Are Eligible for Importation

AGENCY: National Highway Traffic Safety Administration, DOT.

ACTION: Notice of receipt of petition for decision that nonconforming 1988 Ducati 851 motorcycles are eligible for importation.

SUMMARY: This document announces receipt by the National Highway Traffic Safety Administration (NHTSA) of a petition for a decision that 1988 Ducati 851 motorcycles that were not originally manufactured to comply with all applicable Federal motor vehicle safety standards (FMVSS) are eligible for importation into the United States because (1) they are substantially similar to vehicles that were originally manufactured for sale in the United States and that were certified by their manufacturer as complying with the safety standards, and (2) they are capable of being readily altered to conform to the standards.

DATES: The closing date for comments on the petition is November 21, 2007.

ADDRESSES: Comments should refer to the docket and notice numbers above and be submitted by any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov.* Follow the online instructions for submitting comments.
- *Mail:* Docket Management Facility: U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12–140, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* West Building Ground Floor, Room W12–140,

1200 New Jersey Avenue SE., between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.

• *Fax:* 202–493–2251.

Instructions: Comments must be written in the English language, and be no greater than 15 pages in length, although there is no limit to the length of necessary attachments to the comments. If comments are submitted in hard copy form, please ensure that two copies are provided. If you wish to receive confirmation that your comments were received, please enclose a stamped, self-addressed postcard with the comments. Note that all comments received will be posted without change to *http://www.regulations.gov,* including any personal information provided. Please see the Privacy Act heading below.

Privacy Act: Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477–78) or you may visit *http://DocketInfo.dot.gov.*

How To Read Comments Submitted to the Docket: You may read the comments received by Docket Management at the address and times given above. You may also see the comments on the Internet. To read the comments on the Internet, take the following steps:

(1) Go to the Federal Docket Management System (FDMS) Web page *http://www.regulations.gov.*

(2) On that page, click on ''search for dockets.''

(3) On the next page (*http://www.regulations.gov/fdmspublic/component/main*), select NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION from the drop-down menu in the Agency field, enter the Docket ID number and title shown at the heading of this document, and select ''Nonrulemaking'' from the drop-down menu in the Type field and ''Vehicle Import Eligibility'' in the drop-down menu in the Sub-Type field.

(4) After entering that information, click on ''submit.''

(5) The next page contains docket summary information for the docket you selected. Click on the comments you wish to see. You may download the comments. Although the comments are imaged documents, instead of the word processing documents, the ''pdf'' versions of the documents are word searchable. Please note that even after the comment closing date, we will continue to file relevant information in the Docket as it becomes available. Further, some people may submit late comments. Accordingly, we recommend that you periodically search the Docket for new material.

FOR FURTHER INFORMATION CONTACT: Coleman Sachs, Office of Vehicle Safety Compliance, NHTSA (202–366–3151).

SUPPLEMENTARY INFORMATION:

Background

Under 49 U.S.C. 30141(a)(1)(A), a motor vehicle that was not originally manufactured to conform to all applicable FMVSS shall be refused admission into the United States unless NHTSA has decided that the motor vehicle is substantially similar to a motor vehicle originally manufactured for sale in the United States, certified under 49 U.S.C. 30115, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily altered to conform to all applicable FMVSS.

Petitions for eligibility decisions may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the **Federal Register** of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA decides, on the basis of the petition and any comments that it has received, whether the vehicle is eligible for importation. The agency then publishes this decision in the **Federal Register**.

J.K. Technologies, LLC, of Baltimore, Maryland (''J.K.'') (Registered Importer 90–006) has petitioned NHTSA to decide whether non-U.S. certified 1988 Ducati 851 motorcycles are eligible for importation into the United States. The vehicles that J.K. believes are substantially similar are 1988 Ducati 851 motorcycles that were manufactured for sale in the United States and certified by their manufacturer as conforming to all applicable FMVSS.

The petitioner claims that it carefully compared non-U.S. certified 1988 Ducati 851 motorcycles to their U.S. certified counterparts, and found the vehicles to be substantially similar with respect to compliance with most FMVSS.

J.K. submitted information with its petition intended to demonstrate that non-U.S. certified 1988 Ducati 851 motorcycles, as originally manufactured, conform to many FMVSS in the same manner as their U.S. certified counterparts, or are capable of being readily altered to conform to those standards.

Specifically, the petitioner claims that non-U.S. certified 1988 Ducati 851 motorcycles are identical to their U.S. certified counterparts with respect to compliance with Standard Nos. 106 *Brake Hoses*, 111 *Rearview Mirrors*, 116 *Brake Fluid*, 119 *New Pneumatic Tires for Vehicles other than Passenger Cars*, 120 *Tire Selection and Rims for Vehicles other than Passenger Cars*, 122 *Motorcycle Brake Systems*, and 123 *Motorcycle Controls and Displays*.

The petitioner further contends that the vehicles are capable of being readily altered to meet the following standards, in the manner indicated below:

Standard No. 108 *Lamps, Reflective Devices and Associated Equipment*: Installation of U.S.-certified headlamps.

Standard No. 205 *Glazing Materials*: Inspection of all vehicles, and removal of noncompliant glazing or replacement of the glazing with U.S.-certified components on vehicles that are not already so equipped.

All comments received before the close of business on the closing date indicated above will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. Notice of final action on the petition will be published in the **Federal Register** pursuant to the authority indicated below.

Authority: 49 U.S.C. 30141(a)(1)(A) and (b)(1); 49 CFR 593.8; delegations of authority at 49 CFR 1.50 and 501.8.

Issued on: October 16, 2007.

Claude H. Harris,

Director, Office of Vehicle Safety Compliance.

[FR Doc. E7–20768 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–59–P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA–2006–26357; Notice 2]

Decision That Nonconforming 1999–2000 Hatty 45 Foot Double-Axle Trailers Are Eligible for Importation

AGENCY: National Highway Traffic Safety Administration, DOT.

ACTION: Notice of decision by National Highway Traffic Safety Administration that nonconforming 1999–2000 Hatty 45 foot double-axle trailers are eligible for importation.

SUMMARY: This document announces a decision by the National Highway Traffic Safety Administration (NHTSA) that certain 1999–2000 Hatty 45 foot double-axle trailers that were not originally manufactured to comply with all applicable Federal motor vehicle safety standards (FMVSS) are eligible for importation into the United States because they have safety features that comply with, or are capable of being altered to comply with, all applicable FMVSS.

DATES: This decision was effective April 19, 2007. The agency notified the petitioner at that time that the petition had been granted. This document provides public notice of that decision.

FOR FURTHER INFORMATION CONTACT: Coleman Sachs, Office of Vehicle Safety Compliance, NHTSA (202–366–3151).

SUPPLEMENTARY INFORMATION:

Background

Under 49 U.S.C. 30141(a)(1)(A), a motor vehicle that was not originally manufactured to conform to all applicable FMVSS shall be refused admission into the United States unless NHTSA has decided that the motor vehicle is substantially similar to a motor vehicle originally manufactured for importation into and sale in the United States, certified under 49 U.S.C. 30115, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily altered to conform to all applicable FMVSS.

Where there is no substantially similar U.S.-certified motor vehicle, 49 U.S.C. 30141(a)(1)(B) permits a nonconforming motor vehicle to be admitted into the United States if its safety features comply with, or are capable of being altered to comply with, all applicable FMVSS based on destructive test data or such other evidence as NHTSA decides to be adequate.

Petitions for eligibility decisions may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the **Federal Register** of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA decides, on the basis of the petition and any comments that it has received, whether the vehicle is eligible for importation. The agency then publishes this decision in the **Federal Register**.

Barry Taylor Enterprises of Richmond, California (BTE)(Registered Importer 01–280) petitioned NHTSA to decide whether 1999–2000 Hatty 45 foot double-axle trailers are eligible for importation into the United States. NHTSA published notice of petition on November 21, 2006 (71 FR 67424) to afford an opportunity for public comment. The reader is referred to that notice for a thorough description of the petition.

Comments were received in response to the notice of the petition from ArvinMeritor, Inc., d.b.a. Meritor WABCO (WABCO), the manufacturer of the ABS braking system components installed on the subject vehicles. WABCO stated that the purpose for its comments are; to provide detailed information about the capabilities of the ABS system installed on the subject vehicles and to describe differences between that system and those installed in typical U.S. conforming vehicles regarding the activation signal and control system programming for the lamp check function of the antilock malfunction indicator lamp (required by paragraph S5.2.3.3 of FMVSS No. 121 *Air Brake Systems*).

In its review of the petition, NHTSA found insufficient data, views, and arguments for it to make a determination as to conformity of the subject vehicles with FMVSS No. 223, *Rear Impact Guards* and FMVSS No. 224, *Rear Impact Protection.* As a result, NHTSA requested that BTE provide test data demonstrating that the rear impact guards originally installed on the subject trailers met or were capable of being altered to meet the requirements of FMVSS Nos. 223 and 224. BTE responded by stating that it had been unable to obtain the necessary test documentation. As an alternative to providing the test data, BTE proposed that conformance could be achieved by installing a replacement rear impact guard that was certified by its manufacturer as conforming to all applicable requirements of FMVSS No. 223, provided that it was installed as required by FMVSS No. 224.

NHTSA's *Analysis*: After reviewing the petition as well as the supplemental information received from both BTE and WABCO, NHTSA determined that the subject vehicles were capable of being altered to conform with all applicable safety standards. However, the agency concluded that the RI must demonstrate, in the conformity statement submitted for any vehicle imported under this eligibility decision, that the following modifications, in addition to those included in the instant petition, have been made:

Standard No. 121 *Air Brake Systems*: inspection of the vehicles and rewiring and/or reprogramming of the ABS brake control system to ensure that the antilock malfunction indicator lamp functions as required by the standard.

Standard No. 223, *Rear Impact Guards*: installation of a rear impact guard that is certified as conforming to the requirements of FMVSS No. 223.

Standard No. 224, *Rear Impact Protection*: installation of a rear impact guard that is certified as conforming to the requirements of FMVSS No. 223 in a manner that meets the requirements of FMVSS No. 224.

Based on these considerations, the agency decided to grant this petition.

Final Decision

Accordingly, on the basis of the foregoing, NHTSA has decided that 1999–2000 Hatty 45 foot double-axle trailers that were not originally manufactured to comply with all applicable FMVSS have safety features that comply with, or are capable of being altered to comply with, all applicable FMVSS.

Vehicle Eligibility Number for Subject Vehicles

The importer of a vehicle admissible under any final decision must indicate on the form HS–7 accompanying entry the appropriate vehicle eligibility number indicating that the vehicle is eligible for entry. VCP–38 is the vehicle eligibility number assigned to vehicles admissible under this notice of final decision.

Authority: 49 U.S.C. 30141(a)(1)(B) and (b)(1); 49 CFR 593.7; delegations of authority at 49 CFR 1.50 and 501.8.

Issued on: October 16, 2007.

Claude H. Harris,

Director, Office of Vehicle Safety Compliance.

[FR Doc. E7–20772 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–59–P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA–2007–0004]

Notice of Receipt of Petition for Decision That Nonconforming 1999–2007 Yamaha Drag Star 1100 Motorcycles Are Eligible for Importation

AGENCY: National Highway Traffic Safety Administration, DOT.

ACTION: Notice of receipt of petition for decision that nonconforming 1999–2007 Yamaha Drag Star 1100 motorcycles are eligible for importation.

SUMMARY: This document announces receipt by the National Highway Traffic Safety Administration (NHTSA) of a petition for a decision that 1999–2007 Yamaha Drag Star 1100 motorcycles that were not originally manufactured to comply with all applicable Federal motor vehicle safety standards (FMVSS) are eligible for importation into the United States because (1) they are substantially similar to vehicles that were originally manufactured for sale in the United States and that were certified by their manufacturer as complying with the safety standards, and (2) they are capable of being readily altered to conform to the standards.

DATES: The closing date for comments on the petition is November 21, 2007.

ADDRESSES: Comments should refer to the docket and notice numbers above and be submitted by any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov*. Follow the online instructions for submitting comments.
- *Mail:* Docket Management Facility: U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12–140, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.
- *Fax:* 202–493–2251.

Instructions: Comments must be written in the English language, and be no greater than 15 pages in length, although there is no limit to the length of necessary attachments to the comments. If comments are submitted in hard copy form, please ensure that two copies are provided. If you wish to receive confirmation that your comments were received, please enclose a stamped, self-addressed postcard with the comments. Note that all comments received will be posted without change to *http://www.regulations.gov*, including any personal information provided. Please see the Privacy Act heading below.

Privacy Act: Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477–78) or you may visit *http://DocketInfo.dot.gov.*

How to Read Comments submitted to the Docket: You may read the comments received by Docket Management at the address and times given above. You may also see the comments on the Internet. To read the comments on the Internet, take the following steps:

(1) Go to the Federal Docket Management System (FDMS) Web page *http://www.regulations.gov*.

(2) On that page, click on ''search for dockets.''

(3) On the next page (*http://www.regulations.gov/fdmspublic/component/main*), select National Highway Traffic Safety Administration from the drop-down menu in the Agency field, enter the Docket ID number and title shown at the heading of this document, and select ''Nonrulemaking'' from the drop-down menu in the Type field and ''Vehicle Import Eligibility'' in the drop-down menu in the Sub-Type field.

(4) After entering that information, click on ''submit.''

(5) The next page contains docket summary information for the docket you selected. Click on the comments you wish to see. You may download the comments. Although the comments are imaged documents, instead of the word processing documents, the ''pdf'' versions of the documents are word searchable. Please note that even after the comment closing date, we will continue to file relevant information in the Docket as it becomes available. Further, some people may submit late comments. Accordingly, we recommend that you periodically search the Docket for new material.

FOR FURTHER INFORMATION CONTACT: Coleman Sachs, Office of Vehicle Safety Compliance, NHTSA (202–366–3151).

SUPPLEMENTARY INFORMATION:

Background

Under 49 U.S.C. 30141(a)(1)(A), a motor vehicle that was not originally manufactured to conform to all applicable FMVSS shall be refused admission into the United States unless NHTSA has decided that the motor vehicle is substantially similar to a motor vehicle originally manufactured for sale in the United States, certified under 49 U.S.C. 30115, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily altered to conform to all applicable FMVSS.

Petitions for eligibility decisions may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the **Federal Register** of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA decides, on the basis of the petition and any comments that it has received, whether the vehicle is eligible for importation. The agency then publishes this decision in the **Federal Register**.

US SPECS of Aberdeen, Maryland (Registered Importer 03–321) has petitioned NHTSA to decide whether non-U.S. certified 1999–2007 Yamaha Drag Star 1100 motorcycles are eligible for importation into the United States. The vehicles that U.S. SPECS believes are substantially similar are 1999–2007 V Star 1100 motorcycles that were manufactured for sale in the United States and certified by their manufacturer as conforming to all applicable FMVSS.

The petitioner claims that it carefully compared non-U.S. certified 1999–2007 Yamaha Drag Star 1100 motorcycles to their U.S. certified counterparts, and found the vehicles to be substantially similar with respect to compliance with most FMVSS.

US SPECS submitted information with its petition intended to demonstrate that non-U.S. certified 1999–2007 Yamaha Drag Star 1100 motorcycles, as originally manufactured, conform to many FMVSS in the same manner as their U.S. certified counterparts, or are capable of being readily altered to conform to those standards.

Specifically, the petitioner claims that non-U.S. certified 1999–2007 Yamaha Drag Star 1100 motorcycles are identical to their U.S. certified counterparts with respect to compliance with Standard Nos. 106 *Brake Hoses*, 116 *Brake Fluid*, 119 *New Pneumatic Tires for Vehicles other than Passenger Cars*, and 122 *Motorcycle Brake Systems*.

The petitioner further contends that the vehicles are capable of being readily altered to meet the following standards, in the manner indicated below:

Standard No. 108 *Lamps, Reflective Devices and Associated Equipment:* Inspection of all vehicles and replacement of the following with U.S.-certified components on vehicles not already so equipped: (a) Headlamps; (b) front and rear turn signal lamps; (c) tail lamp assembly; (d) front and rear side-mounted reflex reflectors; and (e) rear-mounted reflex reflector.

Standard No. 111 *Rearview Mirrors:* Inspection of all vehicles, and installation of U.S.-conforming model rearview mirrors on vehicles that are not already so equipped.

Standard No. 120 *Tire Selection and Rims for Vehicles other than Passenger*

Cars: Installation of a tire information placard.

Standard No. 123 *Motorcycle Controls and Displays:* Installation of a U.S.-model speedometer, or modification of the speedometer so that it reads in miles per hour.

Standard No. 205 *Glazing Materials:* Inspection of all vehicles, and removal of noncompliant glazing or replacement of the glazing with U.S.-certified components on vehicles that are not already so equipped.

All comments received before the close of business on the closing date indicated above will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. Notice of final action on the petition will be published in the **Federal Register** pursuant to the authority indicated below.

Authority: 49 U.S.C. 30141(a)(1)(A) and (b)(1); 49 CFR 593.8; delegations of authority at 49 CFR 1.50 and 501.8.

Issued on: October 16, 2007.

Claude H. Harris,

Director, Office of Vehicle, Safety Compliance.

[FR Doc. E7–20774 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–59–P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA–2007–0005]

Notice of Receipt of Petition for Decision That Nonconforming 2004–2005 Vespa LX and PX Model Motorcycles Are Eligible for Importation

AGENCY: National Highway Traffic Safety Administration, DOT.

ACTION: Notice of receipt of petition for decision that nonconforming 2004–2005 Vespa LX and PX model motorcycles are eligible for importation.

SUMMARY: This document announces receipt by the National Highway Traffic Safety Administration (NHTSA) of a petition for a decision that 2004–2005 Vespa LX and PX model motorcycles that were not originally manufactured to comply with all applicable Federal motor vehicle safety standards (FMVSS) are eligible for importation into the United States because (1) they are substantially similar to vehicles that were originally manufactured for sale in the United States and that were certified by their manufacturer as complying with the safety standards, and (2) they are capable of being readily altered to conform to the standards.

DATES: The closing date for comments on the petition is November 21, 2007.

ADDRESSES: Comments should refer to the docket and notice numbers above and be submitted by any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov.* Follow the online instructions for submitting comments.
- *Mail:* Docket Management Facility: U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12–140, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.
- *Fax:* 202–493–2251.

Instructions: Comments must be written in the English language, and be no greater than 15 pages in length, although there is no limit to the length of necessary attachments to the comments. If comments are submitted in hard copy form, please ensure that two copies are provided. If you wish to receive confirmation that your comments were received, please enclose a stamped, self-addressed postcard with the comments. Note that all comments received will be posted without change to *http://www.regulations.gov*, including any personal information provided. Please see the Privacy Act heading below.

Privacy Act: Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477–78) or you may visit *http://DocketInfo.dot.gov.*

How to Read Comments submitted to the Docket: You may read the comments received by Docket Management at the address and times given above. You may also see the comments on the Internet. To read the comments on the Internet, take the following steps:

(1) Go to the Federal Docket Management System (FDMS) Web page *http://www.regulations.gov.*

(2) On that page, click on ''search for dockets.''

(3) On the next page (*http://www.regulations.gov/fdmspublic/component/main*), select NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION from the drop-down menu in the Agency field, enter the Docket ID number and title shown at the heading of this document, and select ''Nonrulemaking'' from the drop-down menu in the Type field and ''Vehicle Import Eligibility'' in the drop-down menu in the Sub-Type field.

(4) After entering that information, click on ''submit.''

(5) The next page contains docket summary information for the docket you selected. Click on the comments you wish to see. You may download the comments. Although the comments are imaged documents, instead of the word processing documents, the ''pdf'' versions of the documents are word searchable. Please note that even after the comment closing date, we will continue to file relevant information in the Docket as it becomes available. Further, some people may submit late comments. Accordingly, we recommend that you periodically search the Docket for new material.

FOR FURTHER INFORMATION CONTACT: Coleman Sachs, Office of Vehicle Safety Compliance, NHTSA (202–366–3151).

SUPPLEMENTARY INFORMATION:

Background

Under 49 U.S.C. 30141(a)(1)(A), a motor vehicle that was not originally manufactured to conform to all applicable FMVSS shall be refused admission into the United States unless NHTSA has decided that the motor vehicle is substantially similar to a motor vehicle originally manufactured for sale in the United States, certified under 49 U.S.C. 30115, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily altered to conform to all applicable FMVSS.

Petitions for eligibility decisions may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the **Federal Register** of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA decides, on the basis of the petition and any comments that it has received, whether the vehicle is eligible for importation. The agency then publishes this decision in the **Federal Register**.

J.K. Technologies, LLC, of Baltimore, Maryland (''J.K.'') (Registered Importer 90–006) has petitioned NHTSA to decide whether non-U.S. certified 2004–

2005 Vespa LX and PX model motorcycles are eligible for importation into the United States. The vehicles that J.K. believes are substantially similar are 2004–2005 Vespa LX and PX model motorcycles that were manufactured for sale in the United States and certified by their manufacturer as conforming to all applicable FMVSS.

The petitioner claims that it carefully compared non-U.S. certified 2004–2005 Vespa LX and PX model motorcycles to their U.S. certified counterparts, and found the vehicles to be substantially similar with respect to compliance with most FMVSS.

J.K. submitted information with its petition intended to demonstrate that non-U.S. certified 2004–2005 Vespa LX and PX model motorcycles, as originally manufactured, conform to many FMVSS in the same manner as their U.S. certified counterparts, or are capable of being readily altered to conform to those standards.

Specifically, the petitioner claims that non-U.S. certified 2004–2005 Vespa LX and PX model motorcycles are identical to their U.S. certified counterparts with respect to compliance with Standard Nos. 106 *Brake Hoses*, 116 *Brake Fluid*, 119 *New Pneumatic Tires for Vehicles other than Passenger Cars*, 120 *Tire Selection and Rims for Vehicles other than Passenger Cars*, and 122 *Motorcycle Brake Systems.*

The petitioner further contends that the vehicles are capable of being readily altered to meet the following standards, in the manner indicated below:

Standard No. 108 *Lamps, Reflective Devices and Associated Equipment:* Installation of the following U.S.-certified components on vehicles not already so equipped: (a) Headlamps; (b) front and rear side-mounted reflex reflectors; and (c) rear-mounted reflex reflector.

Standard No. 111 *Rearview Mirrors:* Inspection of all vehicles, and installation of U.S.-model rearview mirrors on vehicles that are not already so equipped.

Standard No. 123 *Motorcycle Controls and Displays:* Installation of a U.S.-model instrument cluster to meet the requirements of this standard.

Standard No. 205 *Glazing Materials:* Inspection of all vehicles, and removal of noncompliant glazing or replacement of the glazing with U.S.-certified components on vehicles that are not already so equipped.

All comments received before the close of business on the closing date indicated above will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. Notice of final action on the petition will be published in the **Federal Register** pursuant to the authority indicated below.

Authority: 49 U.S.C. 30141(a)(1)(A) and (b)(1); 49 CFR 593.8; delegations of authority at 49 CFR 1.50 and 501.8.

Issued on: October 16, 2007.

Claude H. Harris,

Director, Office of Vehicle Safety Compliance.

[FR Doc. E7–20775 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–59–P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA–2007–0008]

Notice of Receipt of Petition for Decision That Nonconforming 1993 Ducati 888 Motorcycles Are Eligible for Importation

AGENCY: National Highway Traffic Safety Administration, DOT.

ACTION: Notice of receipt of petition for decision that nonconforming 1993 Ducati 888 motorcycles are eligible for importation.

SUMMARY: This document announces receipt by the National Highway Traffic Safety Administration (NHTSA) of a petition for a decision that 1993 Ducati 888 motorcycles that were not originally manufactured to comply with all applicable Federal motor vehicle safety standards (FMVSS) are eligible for importation into the United States because (1) they are substantially similar to vehicles that were originally manufactured for sale in the United States and that were certified by their manufacturer as complying with the safety standards, and (2) they are capable of being readily altered to conform to the standards.

DATES: The closing date for comments on the petition is November 21, 2007.

ADDRESSES: Comments should refer to the docket and notice numbers above and be submitted by any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov*. Follow the online instructions for submitting comments.
- *Mail:* Docket Management Facility: U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12–140, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.
- *Fax:* 202–493–2251.

Instructions: Comments must be written in the English language, and be no greater than 15 pages in length, although there is no limit to the length of necessary attachments to the comments. If comments are submitted in hard copy form, please ensure that two copies are provided. If you wish to receive confirmation that your comments were received, please enclose a stamped, self-addressed postcard with the comments. Note that all comments received will be posted without change to *http://www.regulations.gov*, including any personal information provided. Please see the Privacy Act heading below.

Privacy Act: Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477–78) or you may visit *http://DocketInfo.dot.gov*.

How to Read Comments Submitted to the Docket: You may read the comments received by Docket Management at the address and times given above. You may also see the comments on the Internet. To read the comments on the Internet, take the following steps:

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(2) On that page, click on ''search for dockets.''

(3) On the next page (*http://www.regulations.gov/fdmspublic/component/main*), select NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION from the drop-down menu in the Agency field, enter the Docket ID number and title shown at the heading of this document, and select ''Nonrulemaking'' from the drop-down menu in the Type field and ''Vehicle Import Eligibility'' in the drop-down menu in the Sub-Type field.

(4) After entering that information, click on ''submit.''

(5) The next page contains docket summary information for the docket you selected. Click on the comments you wish to see. You may download the comments. Although the comments are imaged documents, instead of the word processing documents, the ''pdf'' versions of the documents are word searchable. Please note that even after the comment closing date, we will

continue to file relevant information in the Docket as it becomes available. Further, some people may submit late comments. Accordingly, we recommend that you periodically search the Docket for new material.

FOR FURTHER INFORMATION CONTACT: Coleman Sachs, Office of Vehicle Safety Compliance, NHTSA (202–366–3151).

SUPPLEMENTARY INFORMATION:

Background

Under 49 U.S.C. 30141(a)(1)(A), a motor vehicle that was not originally manufactured to conform to all applicable FMVSS shall be refused admission into the United States unless NHTSA has decided that the motor vehicle is substantially similar to a motor vehicle originally manufactured for sale in the United States, certified under 49 U.S.C. 30115, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily altered to conform to all applicable FMVSS.

Petitions for eligibility decisions may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the **Federal Register** of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA decides, on the basis of the petition and any comments that it has received, whether the vehicle is eligible for importation. The agency then publishes this decision in the **Federal Register**.

J.K. Technologies, LLC, of Baltimore, Maryland (''J.K.'') (Registered Importer 90–006) has petitioned NHTSA to decide whether non-U.S. certified 1993 Ducati 888 motorcycles are eligible for importation into the United States. The vehicles that J.K. believes are substantially similar are 1993 Ducati 888 motorcycles that were manufactured for sale in the United States and certified by their manufacturer as conforming to all applicable FMVSS.

The petitioner claims that it carefully compared non-U.S. certified 1993 Ducati 888 motorcycles to their U.S. certified counterparts, and found the vehicles to be substantially similar with respect to compliance with most FMVSS.

J.K. submitted information with its petition intended to demonstrate that non-U.S. certified 1993 Ducati 888 motorcycles, as originally manufactured, conform to many FMVSS in the same manner as their U.S. certified counterparts, or are capable of being readily altered to conform to those standards.

Specifically, the petitioner claims that non-U.S. certified 1993 Ducati 888 motorcycles are identical to their U.S. certified counterparts with respect to compliance with Standard Nos. 106 *Brake Hoses*, 111 *Rearview Mirrors*, 116 *Brake Fluid*, 119 *New Pneumatic Tires for Vehicles other than Passenger Cars*, 120 *Tire Selection and Rims for Vehicles other than Passenger Cars*, 122 *Motorcycle Brake Systems*, and 123 *Motorcycle Controls and Displays.*

The petitioner further contends that the vehicles are capable of being readily altered to meet the following standards, in the manner indicated below:

Standard No. 108 *Lamps, Reflective Devices and Associated Equipment:* installation of U.S.-certified headlamps.

Standard No. 205 *Glazing Materials:* inspection of all vehicles, and removal of noncompliant glazing or replacement of the glazing with U.S.-certified components on vehicles that are not already so equipped.

All comments received before the close of business on the closing date indicated above will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. Notice of final action on the petition will be published in the **Federal Register** pursuant to the authority indicated below.

Authority: 49 U.S.C. 30141(a)(1)(A) and (b)(1); 49 CFR 593.8; delegations of authority at 49 CFR 1.50 and 501.8.

Issued on: October 16, 2007.

Claude H. Harris,

Director, Office of Vehicle Safety Compliance.

[FR Doc. E7–20777 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–59–P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA–2007–0009]

Notice of Receipt of Petition for Decision That Nonconforming 2007 Harley Davidson FXSTC Soft Tail Custom Motorcycles Are Eligible for Importation

AGENCY: National Highway Traffic Safety Administration, DOT.

ACTION: Notice of receipt of petition for decision that nonconforming 2007 Harley Davidson FXSTC Soft Tail Custom motorcycles are eligible for importation.

SUMMARY: This document announces receipt by the National Highway Traffic Safety Administration (NHTSA) of a petition for a decision that 2007 Harley Davidson FXSTC Soft Tail Custom motorcycles that were not originally manufactured to comply with all applicable Federal motor vehicle safety standards (FMVSS) are eligible for importation into the United States because (1) they are substantially similar to vehicles that were originally manufactured for sale in the United States and that were certified by their manufacturer as complying with the safety standards, and (2) they are capable of being readily altered to conform to the standards.

DATES: The closing date for comments on the petition is November 21, 2007.

ADDRESSES: Comments should refer to the docket and notice numbers above and be submitted by any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov.* Follow the online instructions for submitting comments.
- *Mail:* Docket Management Facility: U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12–140, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue SE., between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.
- *Fax:* 202–493–2251.

Instructions: Comments must be written in the English language, and be no greater than 15 pages in length, although there is no limit to the length of necessary attachments to the comments. If comments are submitted in hard copy form, please ensure that two copies are provided. If you wish to receive confirmation that your comments were received, please enclose a stamped, self-addressed postcard with the comments. Note that all comments received will be posted without change to *http://www.regulations.gov,* including any personal information provided. Please see the Privacy Act heading below.

Privacy Act: Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR

19477–78) or you may visit *http://DocketInfo.dot.gov*.

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(4) After entering that information, click on ''submit.''

(5) The next page contains docket summary information for the docket you selected. Click on the comments you wish to see. You may download the comments. Although the comments are imaged documents, instead of the word processing documents, the ''pdf'' versions of the documents are word searchable. Please note that even after the comment closing date, we will continue to file relevant information in the Docket as it becomes available. Further, some people may submit late comments. Accordingly, we recommend that you periodically search the Docket for new material.

FOR FURTHER INFORMATION CONTACT: Coleman Sachs, Office of Vehicle Safety Compliance, NHTSA (202–366–3151).

SUPPLEMENTARY INFORMATION:

Background

Under 49 U.S.C. 30141(a)(1)(A), a motor vehicle that was not originally manufactured to conform to all applicable FMVSS shall be refused admission into the United States unless NHTSA has decided that the motor vehicle is substantially similar to a motor vehicle originally manufactured for sale in the United States, certified under 49 U.S.C. 30115, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily altered to conform to all applicable FMVSS.

Petitions for eligibility decisions may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the **Federal Register** of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA decides, on the basis of the petition and any comments that it has received, whether the vehicle is eligible for importation. The agency then publishes this decision in the **Federal Register**.

J.K. Technologies, LLC, of Baltimore, Maryland (''J.K.'') (Registered Importer 90–006) has petitioned NHTSA to decide whether non-U.S. certified 2007 Harley Davidson FXSTC Soft Tail Custom motorcycles are eligible for importation into the United States. The vehicles that J.K. believes are substantially similar are 2007 Harley Davidson FXSTC Soft Tail Custom motorcycles that were manufactured for sale in the United States and certified by their manufacturer as conforming to all applicable FMVSS.

The petitioner claims that it carefully compared non-U.S. certified 2007 Harley Davidson FXSTC Soft Tail Custom motorcycles to their U.S. certified counterparts, and found the vehicles to be substantially similar with respect to compliance with most FMVSS.

J.K. submitted information with its petition intended to demonstrate that non-U.S. certified 2007 Harley Davidson FXSTC Soft Tail Custom motorcycles, as originally manufactured, conform to many FMVSS in the same manner as their U.S. certified counterparts, or are capable of being readily altered to conform to those standards.

Specifically, the petitioner claims that non-U.S. certified 2007 Harley Davidson FXSTC Soft Tail Custom motorcycles are identical to their U.S. certified counterparts with respect to compliance with Standard Nos. 106 *Brake Hoses,* 111 *Rearview Mirrors,* 116 *Brake Fluid,* 119 *New Pneumatic Tires for Vehicles other than Passenger Cars,* 120 *Tire Selection and Rims for Vehicles other than Passenger Cars,* and 122 *Motorcycle Brake Systems.*

The petitioner further contends that the vehicles are capable of being readily altered to meet the following standards, in the manner indicated below:

Standard No. 108 *Lamps, Reflective Devices and Associated Equipment:* installation of the following U.S.-certified components on vehicles not already so equipped: (a) Headlamp; (b) front and rear side-mounted reflex reflectors; (c) rear-mounted reflex reflector; (d) turn signal lamps; (e) stoplamp; (f) taillamp; and (g) license plate lamp.

Standard No. 123 *Motorcycle Controls and Displays:* Installation of a U.S.-model instrument cluster to meet the requirements of this standard.

Standard No. 205 *Glazing Materials:* Inspection of all vehicles, and removal of noncompliant glazing or replacement of the glazing with U.S.-certified components on vehicles that are not already so equipped.

All comments received before the close of business on the closing date indicated above will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. Notice of final action on the petition will be published in the **Federal Register** pursuant to the authority indicated below.

Authority: 49 U.S.C. 30141(a)(1)(A) and (b)(1); 49 CFR 593.8; delegations of authority at 49 CFR 1.50 and 501.8.

Issued on: October 16, 2007.

Claude H. Harris,

Director, Office of Vehicle Safety Compliance.

[FR Doc. E7–20788 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–59–P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

Docket No. NHTSA–2007–0006

Notice of Receipt of Petition for Decision That Nonconforming 2000–2001 Moto Guzzi California Motorcycles Are Eligible for Importation

AGENCY: National Highway Traffic Safety Administration, DOT.

ACTION: Notice of receipt of petition for decision that nonconforming 2000–2001 Moto Guzzi California motorcycles are eligible for importation.

SUMMARY: This document announces receipt by the National Highway Traffic Safety Administration (NHTSA) of a petition for a decision that 2000–2001 Moto Guzzi California motorcycles that were not originally manufactured to comply with all applicable Federal motor vehicle safety standards (FMVSS) are eligible for importation into the United States because (1) they are substantially similar to vehicles that were originally manufactured for sale in the United States and that were certified by their manufacturer as complying with the safety standards, and (2) they are capable of being readily altered to conform to the standards.

DATE: The closing date for comments on the petition is November 21, 2007.

ADDRESSES: Comments should refer to the docket and notice numbers above and be submitted by any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov*. Follow the online instructions for submitting comments.
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- *Fax:* 202–493–2251

Instructions: Comments must be written in the English language, and be no greater than 15 pages in length, although there is no limit to the length of necessary attachments to the comments. If comments are submitted in hard copy form, please ensure that two copies are provided. If you wish to receive confirmation that your comments were received, please enclose a stamped, self-addressed postcard with the comments. Note that all comments received will be posted without change to *http://www.regulations.gov*, including any personal information provided. Please see the Privacy Act heading below.

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(3) On the next page (*http://www.regulations.gov/fdmspublic/component/main*), select NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION from the drop-down menu in the Agency field, enter the Docket ID number and title shown at the heading of this document, and select ''Nonrulemaking'' from the drop-down menu in the Type field and ''Vehicle Import Eligibility'' in the drop-down menu in the Sub-Type field.

(4) After entering that information, click on ''submit.''

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FOR FURTHER INFORMATION CONTACT: Coleman Sachs, Office of Vehicle Safety Compliance, NHTSA (202–366–3151).

SUPPLEMENTARY INFORMATION:

Background

Under 49 U.S.C. 30141(a)(1)(A), a motor vehicle that was not originally manufactured to conform to all applicable FMVSS shall be refused admission into the United States unless NHTSA has decided that the motor vehicle is substantially similar to a motor vehicle originally manufactured for sale in the United States, certified under 49 U.S.C. 30115, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily altered to conform to all applicable FMVSS.

Petitions for eligibility decisions may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the **Federal Register** of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA decides, on the basis of the petition and any comments that it has received, whether the vehicle is eligible for importation. The agency then publishes this decision in the **Federal Register**.

J.K. Technologies, LLC, of Baltimore, Maryland (''J.K.'') (Registered Importer 90–006) has petitioned NHTSA to decide whether non-U.S. certified 2000–2001 Moto Guzzi California motorcycles are eligible for importation into the United States. The vehicles that J.K. believes are substantially similar are 2000–2001 Moto Guzzi California motorcycles that were manufactured for sale in the United States and certified by their manufacturer as conforming to all applicable FMVSS.

The petitioner claims that it carefully compared non-U.S. certified 2000–2001 Moto Guzzi California motorcycles to their U.S. certified counterparts, and found the vehicles to be substantially similar with respect to compliance with most FMVSS.

J.K. submitted information with its petition intended to demonstrate that non-U.S. certified 2000–2001 Moto Guzzi California motorcycles, as originally manufactured, conform to many FMVSS in the same manner as their U.S. certified counterparts, or are capable of being readily altered to conform to those standards.

Specifically, the petitioner claims that non-U.S. certified 2000–2001 Moto Guzzi California motorcycles are identical to their U.S. certified counterparts with respect to compliance with Standard Nos. 106 *Brake Hoses*, 116 *Brake Fluid*, 119 *New Pneumatic Tires for Vehicles other than Passenger Cars*, 120 *Tire Selection and Rims for Vehicles other than Passenger Cars*, and 122 *Motorcycle Brake Systems.*

The petitioner further contends that the vehicles are capable of being readily altered to meet the following standards, in the manner indicated below:

Standard No. 108 *Lamps, Reflective Devices and Associated Equipment:* Installation of the following U.S.-certified components on vehicles not already so equipped: (a) headlamps; (b) front and rear side-mounted reflex reflectors; and (c) rear-mounted reflex reflector.

Standard No. 111 *Rearview Mirrors:* Inspection of all vehicles, and installation of U.S.-model rearview mirrors on vehicles that are not already so equipped.

Standard No. 123 *Motorcycle Controls and Displays:* Installation of a U.S.-model instrument cluster to meet the requirements of this standard.

Standard No. 205 *Glazing Materials:* Inspection of all vehicles, and removal of noncompliant glazing or replacement of the glazing with U.S.-certified components on vehicles that are not already so equipped.

All comments received before the close of business on the closing date indicated above will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. Notice of final action on the petition will be published in the **Federal**

Register pursuant to the authority indicated below.

Authority: 49 U.S.C. 30141(a)(1)(A) and (b)(1); 49 CFR 593.8; delegations of authority at 49 CFR 1.50 and 501.8.

Issued on: October 16, 2007.

Claude H. Harris,

Director, Office of Vehicle Safety Compliance.

[FR Doc. E7–20790 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–59–P

DEPARTMENT OF THE TREASURY

Internal Revenue Service

[INTL–9–95]

Proposed Collection; Comment Request for Regulation Project

AGENCY: Internal Revenue Service (IRS), Treasury.

ACTION: Notice and request for comments.

SUMMARY: The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104–13 (44 U.S.C. 3506(c)(2)(A)). Currently, the IRS is soliciting comments concerning an existing final regulation, INTL–9–95 (TD 8702), Certain Transfers of Domestic Stock or Securities by U.S. Persons to Foreign Corporations (§ 1.367(a)–3).

DATES: Written comments should be received on or before December 21, 2007 to be assured of consideration.

ADDRESSES: Direct all written comments to Glenn P. Kirkland, Internal Revenue Service, room 6129, 1111 Constitution Avenue, NW., Washington, DC 20224.

FOR FURTHER INFORMATION CONTACT: Requests for additional information or copies of the regulations should be directed to R. Joseph Durbala at Internal Revenue Service, room 6129, 1111 Constitution Avenue, NW., Washington, DC 20224, or at (202) 622–3634, or through the internet at *RJoseph.Durbala@irs.gov*.

SUPPLEMENTARY INFORMATION:

Title: Certain Transfers of Domestic Stock or Securities by U.S. Persons to Foreign Corporations.

OMB Number: 1545–1478.

Regulation Project Number: INTL–9–95.

Abstract: This regulation relates to certain transfers of stock or securities of domestic corporations pursuant to the corporate organization, reorganization, or liquidation provisions of the internal Revenue Code. Transfers of stock or securities by U.S. persons in tax-free transactions are treated as taxable transactions when the acquirer is a foreign corporation, unless an exception applies under Code section 367(a). This regulation provides that no U.S. person will qualify for an exception unless the U.S. target company complies with certain reporting requirements.

Current Actions: There is no change to this existing regulation.

Type of Review: Extension of a currently approved collection.

Affected Public: Business or other for-profit organizations.

Estimated Number of Responses: 100.

Estimated Time Per Response: 10 hours.

Estimated Total Annual Burden Hours: 1,000.

The following paragraph applies to all of the collections of information covered by this notice:

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection of information displays a valid OMB control number. Books or records relating to a collection of information must be retained as long as their contents may become material in the administration of any internal revenue law. Generally, tax returns and tax return information are confidential, as required by 26 U.S.C. 6103.

Request for Comments: Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Approved: October 9, 2007.

Glenn P. Kirkland,

IRS Reports Clearance Officer.

[FR Doc. E7–20704 Filed 10–19–07; 8:45 am]

BILLING CODE 4830–01–P

DEPARTMENT OF THE TREASURY

Internal Revenue Service

Proposed Collection; Comment Request for Form 13551

AGENCY: Internal Revenue Service (IRS), Treasury.

ACTION: Notice and request for comments.

SUMMARY: The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104–13 (44 U.S.C. 3506(c)(2)(A)). Currently, the IRS is soliciting comments concerning Form 13551, Application to Participate in the IRS Acceptance Agent Program.

DATES: Written comments should be received on or before December 21, 2007 to be assured of consideration.

ADDRESSES: Direct all written comments to Glenn P. Kirkland, Internal Revenue Service, room 6129, 1111 Constitution Avenue, NW., Washington, DC 20224.

FOR FURTHER INFORMATION CONTACT: Requests for additional information or copies of the form and instructions should be directed to R. Joseph Durbala at Internal Revenue Service, room 6129, 1111 Constitution Avenue, NW., Washington, DC 20224, or at (202) 622–3634, or through the internet at *RJoseph.Durbala@irs.gov*.

SUPPLEMENTARY INFORMATION:

Title: Application to Participate in the IRS Acceptance Agent Program.

OMB Number: 1545–1896.

Form Number: 13551.

Abstract: Form 13551 is used to gather information to determine applicant's eligibility in the Acceptance Agent Program.

Current Actions: There are no changes being made to the form at this time.

Type of Review: Extension of a currently approved collection.

Affected Public: Businesses or other for-profit organizations, not-for-profit institutions, and Federal, state, local or tribal government.

Estimated Number of Respondents: 12,825.

Estimated Time Per Respondent: 30 minutes.

Estimated Total Annual Burden Hours: 6,413.

The following paragraph applies to all of the collections of information covered by this notice:

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection of information displays a valid OMB control number. Books or records relating to a collection of information must be retained as long as their contents may become material in the administration of any internal revenue law. Generally, tax returns and tax return information are confidential, as required by 26 U.S.C. 6103.

Request for Comments: Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Approved: October 9, 2007.

Glenn P. Kirkland,

IRS Reports Clearance Officer.

[FR Doc. E7–20705 Filed 10–19–07; 8:45 am]

BILLING CODE 4830–01–P

DEPARTMENT OF THE TREASURY

Internal Revenue Service

Proposed Collection; Comment Request for Foreign Based Importer Non-Filers Questionnaire

AGENCY: Internal Revenue Service (IRS), Treasury.

ACTION: Notice and request for comments.

SUMMARY: The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104–13 (44 U.S.C. 3506(c)(2)(A)). Currently, the IRS is soliciting comments concerning the Foreign Based Importer Non-Filers Questionnaire.

DATES: Written comments should be received on or before December 21, 2007 to be assured of consideration.

ADDRESSES: Direct all written comments to Glenn P. Kirkland, Internal Revenue Service, room 6129, 1111 Constitution Avenue NW., Washington, DC 20224.

FOR FURTHER INFORMATION CONTACT: Requests for additional information or copies of the form and instructions should be directed to R. Joseph Durbala, (202) 622–3634, at Internal Revenue Service, room 6129, 1111 Constitution Avenue NW., Washington, DC 20224, or through the internet at *RJoseph.Durbala@irs.gov.*

SUPPLEMENTARY INFORMATION:

Title: Foreign Based Importer Non-Filers Questionnaire.

OMB Number: 1545–2084.

Form Number: N/A.

Abstract: Foreign corporations are subject to U.S. Income Tax on income that is effectively connected with a U.S. trade or business and are required to file a U.S. Income tax return reporting taxable income. However, based on the public information available, it is not readily determinable without further research that U.S. Income Tax compliance has been fulfilled. Therefore, IDRS will be utilized to determine if filing compliance has been met. This contact letter is sent to taxpayers who appear to have a U.S. trade or business and have not filed a U.S. Income Tax return or filed a protective 1120F.

Current Actions: There is no change in the paperwork burden previously approved by OMB. This form is being submitted for renewal purposes only.

Type of Review: Extension of a currently approved collection.

Affected Public: Businesses and other for-profit organizations.

Estimated Number of Respondents: 90.

Estimated Time Per Respondent: 1 hour.

Estimated Total Annual Burden Hours: 30.

The following paragraph applies to all of the collections of information covered by this notice:

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection of information displays a valid OMB control number.

Books or records relating to a collection of information must be retained as long as their contents may become material in the administration of any internal revenue law. Generally, tax returns and tax return information are confidential, as required by 26 U.S.C. 6103.

Request for Comments: Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Approved: October 9, 2007.

Glenn P. Kirkland,

IRS Reports Clearance Officer.

[FR Doc. E7–20706 Filed 10–19–07; 8:45 am]

BILLING CODE 4830–01–P

DEPARTMENT OF THE TREASURY

Internal Revenue Service

Proposed Collection; Comment Request for Notice 98–52 and REG–108639–99

AGENCY: Internal Revenue Service (IRS), Treasury.

ACTION: Notice and request for comments.

SUMMARY: The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104–13 (44 U.S.C. 3506(c)(2)(A)). Currently, the IRS is soliciting comments concerning Notice 98–52, Cash or Deferred Arrangements; Nondiscrimination, and existing notice of proposed rulemaking, REG–108639–99, Retirement Plans; Cash or Deferred Arrangements Under Section 401(k) and Matching Contributions or Employee Contributions Under Section 401(m)(§§ 1.401(k)–3(d) and 1.401(m)–3(e).

DATES: Written comments should be received on or before December 21, 2007 to be assured of consideration.

ADDRESSES: Direct all written comments to Glenn P. Kirkland, Internal Revenue Service, room 6129, 1111 Constitution Avenue, NW., Washington, DC 20224.

FOR FURTHER INFORMATION CONTACT: Requests for additional information or copies of the notice and regulation should be directed to R. Joseph Durbala at Internal Revenue Service, room 6129, 1111 Constitution Avenue, NW., Washington, DC 20224, or at (202) 622–3634, or through the internet at *RJoseph.Durbala@irs.gov*.

SUPPLEMENTARY INFORMATION:

Title: Cash or Deferred Arrangements; Nondiscrimination (Notice 98–52), Retirement Plans; Cash or Deferred Arrangements Under Section 401(k) and Matching Contributions or Employee Contributions Under Section 401(m)(REG–108639–9).

OMB Number: 1545–1624.

Notice Number: Notice 98–52.

Regulation Project Number: REG–108639–99.

Abstract: This notice provides guidance to plan administrators, plan sponsors, etc., regarding nondiscriminatory safe harbors with respect to Internal Revenue Code sections 401(k)(12) and 401(m)(11), as amended by the Small Business Job Protection Act of 1996. The safe harbor provisions pertain to the actual deferral percentage test and the actual contribution percentage test for cash or deferred arrangements and for defined contribution plans. To take advantage of the safe harbor provisions, plan sponsors must amend their plans to reflect the new law and must provide plan participants with an annual notice describing the benefits available under the plan.

Current Actions: There are no changes being made to the notice at this time.

Type of Review: Extension of a currently approved collection.

Affected Public: Business or other for-profit organizations, and not-for-profit institutions.

Estimated Number of Respondents: 60,000.

Estimated Time per Respondent: 1 hour, 20 minutes.

Estimated Total Annual Burden Hours: 80,000.

The following paragraph applies to all of the collections of information covered by this notice:

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection of information displays a valid OMB control number. Books or records relating to a collection of information must be retained as long as their contents may become material in the administration of any internal revenue law. Generally, tax returns and tax return information are confidential, as required by 26 U.S.C. 6103.

Request for Comments: Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Approved: October 9, 2007.

Glenn P. Kirkland,

IRS Reports Clearance Officer.

[FR Doc. E7–20720 Filed 10–19–07; 8:45 am]

BILLING CODE 4830–01–P

DEPARTMENT OF THE TREASURY

Internal Revenue Service

Art Advisory Panel—Notice of Closed Meeting

AGENCY: Internal Revenue Service, Treasury.

ACTION: Notice of closed meeting of Art Advisory Panel.

SUMMARY: Closed meeting of the Art Advisory Panel will be held in Washington, DC.

DATES: The meeting will be held November 15, 2007.

ADDRESSES: The closed meeting of the Art Advisory Panel will be held on November 15, 2007, in Room 4200E beginning at 9:30 a.m., Franklin Court Building, 1099 14th Street, NW., Washington, DC 20005.

FOR FURTHER INFORMATION CONTACT: Karen Carolan, C:AP:AS, 1099 14th Street, NW., Washington, DC 20005. Telephone (202) 435–5609 (not a toll-free number).

SUPPLEMENTARY INFORMATION: Notice is hereby given pursuant to section 10(a)(2) of the Federal Advisory Committee Act, 5 U.S.C. App., that a closed meeting of the Art Advisory Panel will be held on November 15, 2007, in Room 4200E beginning at 9:30 a.m., Franklin Court Building, 1099 14th Street, NW., Washington, DC 20005.

The agenda will consist of the review and evaluation of the acceptability of fair market value appraisals of works of art involved in Federal income, estate, or gift tax returns. This will involve the discussion of material in individual tax returns made confidential by the provisions of 26 U.S.C. 6103.

A determination as required by section 10(d) of the Federal Advisory Committee Act has been made that this meeting is concerned with matters listed in section 552b(c)(3), (4), (6), and (7), and that the meeting will not be open to the public.

Sarah Hall Ingram,

Chief, Appeals.

[FR Doc. E7–20719 Filed 10–19–07; 8:45 am]

BILLING CODE 4830–01–P

DEPARTMENT OF THE TREASURY

Internal Revenue Service

Electronic Tax Administration Advisory Committee (ETAAC)

AGENCY: Internal Revenue Service (IRS), Treasury.

ACTION: Notice of open meeting.

SUMMARY: In 1998 the Internal Revenue Service established the Electronic Tax Administration Advisory Committee (ETAAC). The primary purpose of ETAAC is for industry partners to provide an organized public forum for discussion of electronic tax administration issues in support of the overriding goal that paperless filing should be the preferred and most convenient method of filing tax and information returns. ETAAC offers constructive observations about current or proposed policies, programs, and procedures, and suggests improvements. Listed is a summary of the agenda along with the planned discussion topics.

Summarized Agenda

8:30 a.m. Meet and Greet.

9 a.m. Meeting Opens.

10:30 a.m. Meeting Adjourns.

The discussion topics are:

(1) Recommendations from the ETAAC.

(2) Written comments from the public.

(3) Establishment of ETAAC's new subcommittee: MeF 1040 Executive Steering Committee.

Note: Last-minute changes to these topics are possible and could prevent advance notice.

DATES: There will be a meeting of ETAAC on Thursday, November 15, 2007 at the Hotel Washington, Capital Room, 515 15th Street, NW., Washington, DC 20004. You must register in advance to be put on a guest list to attend the meeting. This meeting will be open to the public, and will be in a room that accommodates approximately 40 people, including members of ETAAC and IRS officials. Members of the public may file written statements sharing ideas for electronic tax administration or comments on the key recommendations in the Annual Report to Congress *http://www.irs.gov/pub/irs-pdf/p3415.pdf*. Send written statements to *etaac@irs.gov*. Seats are available to members of the public on a first-come, first-served basis. Attendees are encouraged to arrive 30 minutes before the meeting begins.

ADDRESSES: The meeting will be held at the Hotel Washington, Capital Room, 515 15th Street, NW., Washington, DC 20004.

FOR FURTHER INFORMATION CONTACT: You must provide your name in advance for the guest list. To receive a copy of the agenda or general information about ETAAC, please contact Cassandra Daniels at 202–283–2178 or at *etaac@irs.gov* by Thursday, November 8, 2007. Notification of intent should include your name, organization and telephone number. Please spell out all names if you leave a voice message.

SUPPLEMENTARY INFORMATION: ETAAC reports to the Director, Electronic Tax Administration and Refundable Credits, who is also the executive responsible for the electronic tax administration program. Increasing participation by external stakeholders in the development and implementation of the strategy for electronic tax administration will help IRS achieve the goal that paperless filing should be the preferred and most convenient method of filing tax and information returns.

ETAAC members are not paid for their time or services, but consistent with Federal regulations, they are reimbursed for their travel and lodging expenses to attend the public meetings, working sessions, and an orientation each year.

Dated: Ocober 15, 2007.

Phyllis Gattos,

Acting Director, Strategic Services Division.

[FR Doc. E7–20707 Filed 10–19–07; 8:45 am]

BILLING CODE 4830–01–P

Federal Register

Monday,
October 22, 2007

Part II

Department of Transportation

Federal Aviation Administration

14 CFR Parts 1, 11, 60 and 121

Flight Simulation Training Device Initial and Continuing Qualification and Use; Final Rule and Proposed Rule

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 1, 11, 60, and 121

[Docket No. FAA–2002–12461; Amendment Nos. 1–59, 11–54, 60–2, 121–335]

RIN 2120–AH07

Flight Simulation Training Device Initial and Continuing Qualification and Use

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; correction, delay of effective and compliance dates.

SUMMARY: The Federal Aviation Administration (FAA) is delaying the effective date of a final rule that established qualification requirements for flight simulation training devices (FSTD). In addition, because the new rule set forth specific dates for compliance, to ensure that individuals affected by the rule have adequate time to comply with the rule, the FAA will also delay the compliance date of the rule. The new rule consolidates and updates FSTD requirements that currently exist in different parts of the FAA's regulations and in advisory circulars. The extension of the effective date is necessary because the FAA has initiated a subsequent rulemaking that would provide greater harmonization with the international standards document for simulation. Delaying the effective date of the final rule will allow the agency to complete this subsequent rulemaking and amend the final rule that established qualification requirements for FSTD before the October 30, 2007, effective date.

DATES: *Effective Dates:* The effective date of the rule establishing 14 CFR part 60 and amending 14 CFR parts 1, 11, and 121, published at 71 FR 63392 (October 30, 2006), is delayed from October 30, 2007, to May 30, 2008. In addition, the amendments in this document are effective May 30, 2008.

Compliance Dates: The compliance date of the rule establishing 14 CFR part 60 is delayed from October 30, 2009, to May 30, 2010.

FOR FURTHER INFORMATION CONTACT: Ed Cook, Air Transportation Division (AFS–200), Flight Standards Service, Federal Aviation Administration, 100 Hartsfield Centre Parkway, Suite 400, Atlanta, GA 30354; telephone: 404–832–4700.

SUPPLEMENTARY INFORMATION:

Availability of Rulemaking Documents

You can get an electronic copy of rulemaking documents using the Internet by—

1. Searching the Federal eRulemaking Portal (*http://www.regulations.gov*);

2. Visiting the FAA's Regulations and Policies Web page at *http://www.faa.gov/regulations_policies/*; or

3. Accessing the Government Printing Office's Web page at *http://www.gpoaccess.gov/fr/index.html.*

You can also get a copy by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267–9680. Make sure to identify the amendment number or docket number of this rulemaking. Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act statement in the **Federal Register** published on April 11, 2000 (Volume 65, Number 70; Pages 19477–78), or you may visit *http://DocketInfo.dot.gov.*

Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. If you are a small entity and you have a question regarding this document, you may contact your local FAA official, or the person listed under **FOR FURTHER INFORMATION CONTACT**. You can find out more about SBREFA on the Internet at *http://www.faa.gov/regulations_policies/rulemaking/sbre_act/.*

Authority for This Rulemaking

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority. This rulemaking is promulgated under the authority described in Subtitle VII, Part A, subpart I, 49 U.S.C. 44701. Under that section, the FAA is charged with regulating air commerce in a way that best promotes safety.

Background

During the development of the part 60 final rule (hereinafter ''part 60 Final Rule'') (October 30, 2006, 71 FR 63392), after the publication of the NPRM on September 25, 2002 (67 FR 60284), the FAA became aware of additional changes which needed to be made to the part 60 rule language. The need for additional changes was a result of requests by the aviation community to harmonize the rule with recent updates to international flight simulation standards. However, many of the changes were beyond the scope of the part 60 NPRM, and therefore, could not be included in the final rule. Rather than delay its efforts or issue a supplemental notice of proposed rulemaking, the FAA determined that the fastest approach would be to publish the part 60 Final Rule with an effective date delayed for one year after publication, and amend the technical requirements under the expedited Qualification Performance Standard (QPS) amendment process. This approach avoided increased expenses, greater workload, and conflicting compliance requirements for sponsors who would be required to comply with part 60. However, the FAA has since determined that the additional changes would require an NPRM and the initial one year delay in the effective date established for part 60 is not sufficient for completion of this process. Therefore, the effective date for part 60 and the associated amendments to parts 1, 11, and 121 is extended to May 30, 2008. In addition, specific compliance dates for certain portions of part 60 were set forth in the part 60 Final Rule. Because of the delay of the effective date for part 60, to ensure that affected parties have adequate notice regarding compliance with the part 60 Final Rule, the FAA will extend this date from October 30, 2009, to May 30, 2010.

Good Cause for Foregoing Public Notice and Comment

Section 553(b)(3)(B) of the Administrative Procedure Act, 5 U.S.C. 553(b)(3)(B), authorizes agencies to dispense with certain notice procedures for rules when they find ''good cause'' to do so. Under section 553(b)(3)(B), the requirements of notice and opportunity for comment do not apply when the agency for good cause finds that those procedures are ''impracticable, unnecessary, or contrary to the public interest.''

In this case, the FAA finds that notice and public comment are unnecessary and contrary to the public interest. This action delays the effective date for the

final rule published October 30, 2006 (71 FR 63392). We issued those regulations using the public notice and comment procedure. In that final rule, we stated ''It is the FAA's intent the part 60 final rule not be effective until the first revision of the QPS appendices have been published in the **Federal Register** as a final rule.'' 71 FR 63398. The FAA intends to publish a notice of proposed rulemaking inviting comments on the first revision of the QPS appendices in the near future. Additional public notice and comment is also contrary to the public interest since the public is best served by informing them as soon as possible of the delay in the effective date. If the FAA were to provide notice and comment, the public would not be informed of the delay in the effective date until close to October 30, 2007, the date on which the part 60 final rule is currently scheduled to become effective.

Good Cause for Immediate Adoption

Since neither the delay in the effective date nor the delay in the compliance date of the final rule imposes any new requirements or any additional burden on the regulated public, the FAA finds that good cause exists for immediate adoption of the new effective date and compliance date without a 30-day notice period.

The Effect of Our Decision

Our decision delays the effective date of the final rule (71 FR 63426, Oct. 30, 2006) establishing 14 CFR part 60 and amending 14 CFR parts 1, 11, and 121 from October 30, 2007, to May 30, 2008. Also, our decision delays compliance with certain sections of the final rule, as outlined below, from October 30, 2009, to May 30, 2010.

The Amendment

■ In Doc. No. FAA–2002–12461 appearing on page 63392 in the **Federal Register** of Monday, October 30, 2006 (71 FR 63392), the following corrections are made:

§ 60.5 [Corrected]

■ 1. On page 63427, in the first column in Part 60 Flight Simulation Training Device Initial and Continuing Qualification, amend § 60.5(a) by removing the date ''October 30, 2009'' and adding in its place the date ''May 30, 2010.''

§ 60.7 [Corrected]

■ 2. On page 63427, in the second column in Part 60 Flight Simulation Training Device Initial and Continuing Qualification, amend § 60.7(b)(5) and (b)(6) (in two places) by removing the date ''October 30, 2007'' and adding in its place the date ''May 30, 2008.''

§ 60.17 [Corrected]

■ 3. On page 63429, in the third column in Part 60 Flight Simulation Training Device Initial and Continuing Qualification, amend § 60.17(a), (b), and (d) by removing the date ''October 30, 2007'' and adding in its place the date ''May 30, 2008'' and further amend (b) by removing the date ''October 30, 2013'' and adding in its place the date ''May 30, 2014.''

Issued in Washington, DC, on September 24, 2007.

Rebecca Byers MacPherson,

Assistant Chief Counsel for Regulations.

[FR Doc. 07–4888 Filed 10–19–07; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 60

[Docket No. FAA–2002–12461; Notice No. 07–14]

RIN 2120–AJ12

Flight Simulation Training Device Initial and Continuing Qualification and Use

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of Proposed Rulemaking (NPRM).

SUMMARY: The FAA proposes to amend the Qualification Performance Standards (QPS) for flight simulation training devices (FSTD) and add a new level of simulation for helicopter flight training devices (FTD). The FAA proposes to codify existing practice by requiring all existing FSTD visual scenes that are beyond the number required for qualification to meet specified requirements. The proposal also reorganizes certain sections of the QPS appendices and provides additional information on validation tests, established parameters for tolerances, acceptable data formats, and the use of alternative data sources. The proposed changes would ensure that the training and testing environment is accurate and realistic, would codify existing practice, and would provide greater harmonization with the international standards document for simulation. None of these proposed technical requirements would apply to simulators qualified before May 30, 2008, except for the proposal to codify existing practice regarding certain visual scene requirements. The over-all impact of this proposal would result in minimal to no cost increases for manufacturers and sponsors.

DATES: Send your comments on or before December 21, 2007.

ADDRESSES: You may send comments identified by Docket Number FAA–2002–12461 using any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov* and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to the Docket Management Facility; U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12–140, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* Bring comments to the Docket Management Facility in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to the Docket Management Facility at 202–493–2251.

Privacy Act: We will post all comments we receive, without change, to *http://www.regulations.gov,* including any personal information you provide. Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477–78) or you may visit *http://DocketInfo.dot.gov.*

Docket: To read background documents or comments received, go to *http://www.regulations.gov* at any time and follow the online instructions for accessing the docket. Or, go to the Docket Management Facility in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Edward Cook, Air Transportation Division (AFS–200), Flight Standards Service, Federal Aviation Administration, 100 Hartsfield Centre Parkway, Suite 400, Atlanta, GA 30354; telephone: 404–832–4700.

SUPPLEMENTARY INFORMATION: Part 60 was originally added to Title 14 of the Code of Federal Regulations on October 30, 2006, with an effective date of October 30, 2007. In a document published in the Rules and Regulations section of this issue of the **Federal Register**, the effective date was delayed until May 30, 2008. This proposed rule would change the appendices of Part 60 originally published on October 30, 2006.

Later in this preamble under the Additional Information section, we discuss how you can comment on this proposal and how we will handle your comments. Included in this discussion is related information about the docket, privacy, and the handling of proprietary or confidential business information. We also discuss how you can get a copy of this proposal and related rulemaking documents.

Authority for This Rulemaking

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority. This rulemaking is promulgated under the authority described in Subtitle VII, Part A, subpart I, 49 U.S.C. 44701. Under that section, the FAA is charged with regulating air commerce in a way that best promotes safety.

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  A. Visual Scenes and Airport Models; Class I, Class II, and Class III Airports; and the FSTD Directive for Class II Visual Scenes and Airport Models
  B. New Requirements for Objective Testing Standards
  C. New Requirements for Motion Systems for Full Flight Simulators and Level 7 Helicopter Flight Training Devices
  D. New Requirements for Visual Systems for Level C and D Full Flight Simulators
  E. New Requirements for Sound Systems for Level D Simulators
  F. New Requirements for Subjective Testing Standards for Visual Scenes and Airport Models
  G. New Level 7 Helicopter FSTD Requirements
  H. Quality Management Systems
  I. New Information on Operation and Testing Requirements for FSTDs
V. Regulatory Notices and Analyses

I. Summary of the Proposal

The primary purpose of this NPRM is to ensure that the training and testing environment is accurate and realistic and provide greater harmonization with the international standards document for simulation. The proposed requirements are expected to reduce expenses and workload for simulator sponsors by avoiding conflicting compliance standards. These modifications incorporate technological advances in, encourage innovation of, and standardize the initial and continuing qualification requirements for FSTDs that are consistent with the requirements recently established by the international flight simulation community.

The secondary purpose of this rulemaking project is to reorganize, simplify, and improve the readability of the QPS appendices. This proposal also clarifies and codifies certain standards presently contained in advisory circulars. In addition, the FAA proposes to amend the Qualification Performance

Standards (QPS) for flight simulation training devices (FSTD) and add a new level of simulation for helicopter flight training devices (FTD).

The FAA is proposing the following improvements to its FSTD qualification requirements:

- Provide a listing of the tasks for which a simulator may be qualified.
- Require the collection of objective test data during currently required aircraft certification testing for specific FSTD functions, including: Idle and emergency descents, and pitch trim rates for use in airplane simulators; engine inoperative rejected takeoffs for use in helicopter simulators; and takeoffs, hover, vertical climbs, and normal landings for use in helicopter flight training devices.
- Provide in the QPS additional information for sponsors on the testing requirements for FSTDs, including the use of alternative data sources when complete flight test data are not available or lesser technically complex levels of simulation are being developed.
- Clarify and standardize existing requirements for motion, visual, and sound systems, including subjective buffeting motions, visual scene content, and sound replication.
- By FSTD Directive require each Class II visual scene or airport model available in any FFS, regardless of the original qualification date, to meet the requirements described in Table A3C (Appendix A, Attachment 3) or Table C3C (Appendix C, Attachment 3), as appropriate.
- Clarify existing Quality Management System (QMS) requirements by removing non-regulatory information.

Except for the FSTD Directive, manufacturers and sponsors would not be required to incorporate any of the changes listed above for existing FSTDs. The appendices and attachments to part 60 affected by this proposal would only apply to FSTDs that come into service after part 60 is effective (currently May 30, 2008). The proposed changes to the QMS program would eliminate potentially confusing information that addresses the voluntary portions of a QMS program. The FAA anticipates that this proposal would result in minimal to no cost increases for manufacturers and sponsors.

II. Qualification Performance Standards (QPS) Amendment Process

The part 60 Final Rule contains six QPS appendices: Appendix A—Airplane Full Flight Simulators; Appendix B—Airplane Flight Training Devices; Appendix C—Helicopter Full Flight Simulators; Appendix D—Helicopter Flight Training Devices; Appendix E—Quality Management Systems for Flight Simulation Training Devices; and Appendix F—Definitions and Abbreviations for Flight Simulation Training Devices.

The QPS amendment process is faster than the traditional rulemaking process. It is designed to allow modifications to be implemented in a substantially shortened timeframe. In the part 60 Final Rule published October 30, 2006, (71 FR 63392), the FAA explained that the ''fast track'' QPS amendment process would be used to incorporate technical changes to flight simulation standards. The FAA anticipated QPS amendments based on several factors such as analysis of incident and accident data or changes in aircraft or simulation technology. Changes to the QPS documents are published in the **Federal Register** as an NPRM unless ''good cause'' exists under the Administrative Procedure Act (APA), which would warrant the FAA publishing a change to a QPS document without following the standard notice and comment procedures. Under the APA, in order for the FAA to issue a rule without following notice and comment procedures, the FAA would have to make a good cause finding that following notice and comment procedures would be impracticable, unnecessary, or contrary to the public interest.

Although proposed QPS amendments are published in the **Federal Register** for public comment, the authority for final review and issuance of the NPRM has been delegated from the Administrator to the Director of Flight Standards Service. The delegation of authority facilitates timely implementation of improved technological advances. This delegation of authority is exercised in conjunction with the Office of the Chief Counsel. If at any time during the amendment process the Administrator, Chief Counsel, or the Director of Flight Standards Service determines that a proposed amendment is not appropriate for the streamlined process, the rulemaking project would proceed in accordance with the agency's normal rulemaking procedures.

III. Background

A. Current Qualification Requirements

The FAA issued Part 60 to promote standardization and accountability for FSTD maintenance, qualification, and evaluation. The regulation codified the standards contained in advisory circulars and implemented the QPS format. The QPS appendices allow regulatory requirements and information to be presented in one location. This promotes ease of use and greater insight about the FAA's intent behind the regulation and the required and approved methods of compliance.

B. Harmonization With International Standards

During the development of the part 60 Final Rule, the international community also began updating flight simulation standards.[1] However, many of the changes recommended by the international community were beyond the scope of the part 60 NPRM and could not be included in the final rule. Rather than delay its efforts or issue a supplemental notice of proposed rulemaking, the FAA determined that the fastest approach would be to publish the part 60 Final Rule, delay the effective date, and amend the technical requirements under the expedited QPS amendment process. This approach avoided increased expenses, greater workload, and conflicting compliance requirements for sponsors who would be required to comply with part 60.

The majority of the proposed additions to the QPS provide information to the sponsors on objective tests. The information included explains why the tests are necessary, how to stage the simulator, and how to arrange other equipment to conduct the tests efficiently and produce optimum results. This information would be beneficial for simulator manufacturers and users.

The proposal clarifies and codifies the standards for motion, and visual and sound systems. The proposal also permits a new higher level of simulation for helicopter FTDs. The proposal adds 2 tables of material for operations tasks and system tasks, which are used as a reference when developing the statement of qualification for the FSTD. The proposal also includes a set of tables describing visual scene and airport model requirements for FSTD qualification.

Some of the proposed changes are marginally more stringent than the requirements in the October 30, 2006,

[1] The international community began releasing its recommendations with the publication of the International Civil Aviation Organization's Manual of Criteria for the Qualification of Flight Simulators (Document 9625) in 1994. The Joint Aviation Authorities of Europe issued JAA–STD–1A (Synthetic Training Device—document for airplane flight simulators) in 1998, followed by updates in 1999, 2001, and 2003. The first ICAO update of Document 9625 was in January of 2004 and the most recent consideration for update is the release of JAR–FSTD–A and JAR–FSTD–H documents in the late spring of 2005 for European national regulatory authorities to begin their review and consideration.

Final Rule. For example, a simulator qualified at Level C or Level D after May 30, 2008, would have the field of view and system capacity requirements for the visual system increased by 20 percent over the present requirement. The proposed requirements are consistent with international standards, which simulator manufacturers are currently following. This change improves the quality of simulation necessary to train and evaluate flight crewmembers. Other proposed changes are more flexible than the requirements prescribed in the October 30, 2006, Final Rule. For example, the tolerance for displacement in the control system ''freeplay'' test in helicopter simulators was increased from 0.10 inches to 0.15 inches, allowing additional space to adapt aircraft and non-aircraft hardware for use in the simulator.[2] This change was based on the FAA's belief that a 0.10 inch tolerance would create an undue hardship on sponsors because it would require constant adjustment of the controls to maintain the close tolerance. The change from 0.10 inches to 0.15 inches is large enough to minimize the hardship on sponsors, and small enough to continue providing pilots with an accurate controller feel.

Other than this change to the visual scene requirement, the requirements of this proposal would not apply to current simulators. In all instances the overall costs applicable to new simulators are minimal to none. The most expensive change being proposed is the increase in horizontal field of view for some visual system applications.

C. Compliance

With the exception of QMS requirements and any FSTD Directives, simulators qualified prior to May 30, 2008, are not required to meet QPS requirements as long as the simulator continues to meet the requirements contained in the Master Qualification Test Guide that was developed when the simulator was originally qualified.

IV. The Proposal

A. Visual Scenes and Airport Models; Class I, Class II, and Class III Airports; and the FSTD Directive for Class II Visual Scenes and Airport Models

Current part 60 contains requirements for the number of visual scenes or airport models that must be included for full flight simulator (FFS) qualification and a description of what the visual scenes or airport models must contain. Included in this proposal is a codification of existing practice for visual scene quality, environmental effects, visual feature recognition, and scene control and management capability. Also included is the codification of existing practice for updating visual scenes and airport visual models, including the identification of other aspects of the airport environment that would have to correspond with the visual scene or model.

The proposal establishes the requirements for Class I, Class II, and Class III visual scenes and airport models already covered by ACs issued by the FAA. For circling approaches, all of the proposed requirements would apply to the runway used for the initial approach and to the runway of intended landing. Additional proposed requirements include an accurate visual relationship between the scenes or airport models and other aspects of the airport environment, an accurate visual relationship of the aircraft and associated equipment, scene quality assessment features, and control of these scenes or models that the instructor is able to exercise. The FAA believes these requirements are necessary to ensure realistic and accurate depiction of airports and visual scenes incorporated in simulators for FAA-approved training programs.

Additional visual scenes or airport models beyond those necessary for simulator qualification may be used for various training program applications, including Line Oriented Flight Training, and are important for flight training and testing. Historically, these additional visual scenes or airport models were not routinely evaluated or required to meet any standardized criteria. This led to qualified simulators containing visual scenes or airport models that may have been incorrect or may have contained inappropriate visual references. To prevent this from occurring in the future, the FAA proposes to issue FSTD Directive (FD) Number 1. All FDs issued would be found in the FSTD Directive Attachments: Appendix A, Attachment 6; Appendix B, Attachment 5, Appendix C, Attachment 5, and Appendix D, Attachment 5. FD Number 1 is not contained in Appendix B or in Appendix D because no existing level of FSTD in Appendix B or Appendix D requires a visual system. Proposed FD Number 1 would require each simulator sponsor to verify that each Class II visual scene or airport model available in the FFS, regardless of the original qualification basis and regardless of the initial qualification date, meets the requirements in 14 CFR part 60, Appendix A, Attachment 3, Table A3C or Appendix C, Attachment 3, Table C3C, as applicable. FD Number 1 would apply to all FSTDs with visual systems containing visual scenes or airport models used as part of an FAA-approved curriculum that are available for use and are beyond the minimum number of required visual scenes or airport models required for qualification at the stated level. This FSTD Directive would not require visual scenes or airport models to contain details beyond the design capability of the existing qualified visual system. The availability of the scene or model in the FFS would serve as the sponsor's verification that the requirements were met. Therefore, a reporting requirement for these scenes or models would not be necessary. Currently, visual scenes and airport models available in any FFS that would be classified as Class II are likely to already meet the requirements being proposed. Additionally, each visual scene or airport model classified as Class II would be beyond the number of visual scenes or airport models required for qualification. In the event any Class II visual scene or airport model is found by the sponsor to be deficient in some way, the sponsor could remove that scene or model from the FFS library without jeopardizing the qualification status of the FFS. Alternately, the sponsor, at his or her option, may elect to bring the deficient aspect into compliance and retain the availability of that scene or model. Each sponsor has a full year to review each FFS during normal training, checking, or testing activities and determine the preferred course of action. For these reasons, the FAA has determined that in a few cases the cost for complying with this proposal would be minimal and in many cases there would be no cost to the sponsor.

In addition to the proposed requirements for Class II visual scenes and models, the FAA also proposes to allow the continuation of the use of visual scenes or airport models that have been approved by the Training Program Approval Authority (TPAA) for specific purposes. Examples of approved activities include specific airport or runway qualification, very low visibility operations training, including Surface Movement Guidance System (SMGS) operations, or use of a specific airport visual model aligned with an instrument procedure for another airport for instrument training. At the end of the interim period, all Class III visual scenes and airport models must be classified as either a Class I or a Class II visual scene or airport model or be removed from availability at the simulator Instructor

[2] See Appendix C of this part, Table C2A, item 2.a.6.

Operating Stations (IOS). Class III visual scenes and airport models may continue to be used after the end of the interim period if they are part of a training program specifically approved by the TPAA or other regulatory authority that uses a task and capability analysis as the basis for approval of this specific media element, (i.e., the specific scene or model selected for use in that program). Because any visual scene or airport model that may be classified as Class III is likely to already have some form of a task and capability analysis completed and is already specifically approved by the TPAA, the FAA has determined that in many cases there would be no cost for complying with this proposal. However, if a task and capability analysis is required or if modification to the visual scene is necessary, then the cost would be minimal.

B. New Requirements for Objective Testing Standards

The FAA proposes to revise the objective testing requirements for certain simulation performance areas. These revisions are necessary to clarify the instructions and requirements for certain tests contained in the final rule. In addition to changing the requirements for certain tests, the FAA also proposes several new tests that were not included in the final rule. The revised tests impact the following simulation performance areas:

1. Idle and emergency descents for airplane simulators.
2. Pitch trim rates for airplane simulators.
3. Landing test requirements: autopilot landings and ground effect demonstration for airplane simulators.
4. Takeoffs, hover, vertical climbs, and normal landings in helicopter flight training devices.
5. Spiral stability tests for both airplane and helicopter simulators.
6. Engine inoperative rejected takeoffs for helicopter simulators.
7. Motion System tests for airplane and helicopter simulators and for helicopter flight training devices.
8. Visual System tests for airplane and helicopter simulators and for helicopter flight training devices.
9. Sound System tests for airplane and helicopter simulators.

An example of a revised requirement is the spiral stability test for airplane and helicopter simulators. Under the proposal, an additional parameter must be measured to achieve the required results. For airplanes, the spiral stability test must be conducted in an additional flight configuration (approach or landing) instead of being conducted in cruise configuration only. For helicopters, the final rule required the helicopter to maintain the correct trend during the spiral stability test, whereas this proposal would require the helicopter to meet a specific roll or bank angle during the test. These additional parameters provide a more complete and accurate evaluation of the simulator, and ensure better replication of aircraft performance. The data that would be used to validate simulator performance and handling in these areas is obtained from lateral-directional stability tests conducted during normal aircraft certification flight testing. The data for these additional parameters are either regularly available or can be made available simply by activating the recording equipment when the test is begun.

Another example of the revised requirements is the inclusion of an alternative method for validating control dynamics for the pitch, roll, and yaw control tests for airplane simulators.[3] The alternative method would not change the requirements that the simulator must meet for qualification, but would allow the validation tests for control dynamics to be conducted on the ground rather than in-flight. The FAA believes this change would provide an equivalent level of safety, while conserving resources and providing greater flexibility for manufacturers and sponsors.

These proposed requirements affect only those FSTDs that will be coming into service after May 30, 2008, and some proposed changes may be marginally more stringent than the requirements in the October 30, 2006, Final Rule, while some are less stringent. Where the proposed requirements are marginally more stringent than the current requirements the cost would be minimal.

C. New Requirements for Motion Systems for Full Flight Simulators and Level 7 Helicopter Flight Training Devices

This proposal adds tables describing the motion vibration that must be displayed by the FSTD. The FAA proposes on-set motion cueing capability for airplane and helicopter FFSs and Level 7 helicopter FTDs. For the FFSs, the proposal includes a requirement that the motion cueing must be provided by a platform motion system. For the Level 7 helicopter FTDs, the proposal would allow a method other than a platform motion system to be used, such as the use of a large, bass speaker located beneath the pilot's seat with sufficient response to provide vibration cues to the pilot. The proposal also eliminates certain requirements for ranges and rates of motion system response for helicopter simulators. However, the proposal would require additional tests that capture the motion system ''signature.'' The signature is a simultaneous recording of motion system responses captured while conducting required objective tests. The signature is recorded and may be compared to signatures captured in subsequent evaluations to determine if any differences exist. Any differences would be corrected to return the motion system back to its original system operation. Signature testing would apply to airplane and helicopter simulators.

The October 30, 2006, Final Rule does not contain motion system testing requirements for airplane flight simulators. However, current practice (under the Advisory Circular) includes motion system testing that consists of ''frequency response,'' ''leg balance,'' and ''turn around check.'' This proposal codifies that current practice and adds the motion system benchmarking of a ''motion cueing performance signature'' and ''characteristic motion vibrations,'' both of which are also proposed for helicopter simulators. Motion cueing performance signature and characteristic motion vibrations for airplane flight simulators and helicopter simulators are already recorded during the conduct of other required objective and subjective testing for these simulators, thereby eliminating any cost.

The proposal also requires the recording of motion cueing performance signature and characteristic motion vibrations for simulators and Level 7 helicopter FTDs. The proposal only requires that the motion cueing performance signature and the characteristic motion vibrations be recorded while currently required tests are being conducted. The motion cueing performance signature is the motion system response recorded during certain objective tests. The characteristic motion vibrations are the motion system response recorded during certain subjective tests.

These proposed requirements would provide for more comprehensive simulator assessments. The additional cost for implementation would be either negligible or no cost. These requirements would also harmonize with the international standards document.

[3] See Appendix A of this part, Attachment 2, para. 4.

D. New Requirements for Visual Systems for Level C and D Full Flight Simulators

The FAA proposes technical changes for visual systems on Level C and Level D simulators. For example, the FAA proposes that the surface resolution of objects in the visual scene must be able to be visually ''resolved'' at 2 arc minutes rather than 3 arc minutes. Also, the horizontal field of view requirements would be increased from 150° to 180°. The FAA believes these requirements would provide better training to pilots by improving visual cues and better replicating the outside views. These changes would also be consistent with the current international standards. The requirements of this proposal would not apply to current simulators and the overall costs applicable to new simulators are minimal to none.

E. New Requirements for Sound Systems for Level D Simulators

The FAA proposes new sound testing requirements for new Level D simulators. These requirements would specify basic and special case sound tests, and would be consistent with existing FAA advisory material, FAA regulations, and the standards developed by the international simulation working group. The proposal contains a standardized list of sounds that would be recorded and compared during initial and subsequent qualification evaluations. All new level D simulators would be tested for frequency response and background noise. There would also be specific tests based on whether the simulator is replicating a jet powered aircraft or a propeller powered aircraft. These tests would ensure accuracy in the overall sound quality of the device. This proposal codifies existing practice of measuring sounds and will result in no additional cost to the sponsor. These changes would also be consistent with the current international standards. The FAA has always required Level D simulators to have sounds recorded. These sounds are then measured and compared between the aircraft and the simulator and adjusted until they match to within stated tolerances. However, under current requirements there are inconsistencies with what sounds are to be recorded and what tolerances should be applied. The proposal specifies the portions of the flight envelope that must be recorded, therefore eliminating the previous inconsistencies.

F. New Requirements for Subjective Testing Standards for Visual Scenes and Airport Models

The proposed requirements for visual scene and airport models for FFSs would codify existing advisory material, and include the following:

1. Scene content—1 airport scene required for Level A and B; 3 airport scenes required for Level C and D. The scenes must contain specific details, both on-airport and off-airport.
2. Visual scene management.
3. Visual scene recognition.
4. Airport model content.
5. Surrounding visual features consistent with the airport environment.
6. The quality of visual scene, including correct color and realistic textural cues.
7. Instructor control of environment, airport selection, and lighting.

These requirements would be necessary to ensure a training environment that provides accurate simulation and allows pilots to practice skills using visual scenes and models encountered in actual operations. These requirements would be particularly helpful for pilots with lower flight experience levels.

In addition to codifying standards for the required visual scenes and airport models, the FAA also proposes requirements for visual scenes and airport models that are included in the device by the sponsor, but are not required for the qualification level. In the past, there were no established standards for optional scenes or airport models that a sponsor may have incorporated in an FSTD. This created inconsistencies in approval methods and in the training credits issued for tasks completed in a device that had capability beyond what was required for the stated qualification level. By establishing minimum requirements for these optional scenes and models, the FAA would be requiring the sponsor of each FSTD to meet at least the minimum content, and the device may be eligible for additional training credits for pilots.

The visual scenes and airport models currently available in any FFS that would be classified as Class II are beyond the number of visual scenes or airport models required for qualification and are likely to already meet the requirements being proposed. As previously described, in the event any Class II visual scene or airport model is found by the sponsor to be deficient in some way, the sponsor could remove that scene or model from the FFS library without jeopardizing the qualification status of the FFS. However, the sponsor, at his option, may elect to bring the deficient aspect into compliance and retain the availability of that scene or model. Each sponsor has a full year to review each FFS during normal training, checking, or testing activities and determine the preferred course of action. For these reasons, the FAA has determined that in a few cases the cost for complying with this proposal would be minimal and in many cases there would be no cost to the sponsor.

G. New Level 7 Helicopter FSTD Requirements

The FAA is proposing a Level 7 Helicopter FTD QPS. There are currently no Level 7 helicopter FTDs. The standards proposed for this device would insure the quality of simulation necessary for the training and evaluation of flight crewmembers. The Level 7 FTD QPS would contain specific requirements for visual and motion systems. For example, the device would have to provide a visual system with a field of view of 150° x 40° for both pilots simultaneously and a motion cueing system that may consist of a platform motion system, a seat shaker system, or a strategically located bass speaker of sufficient response to provide an indication of rotor vibration and vibration changes with changes in RPM or collective input. The Level 7 device would expand the training capability for helicopter students. Because the Level 7 FTD is a new voluntary training option and would not be required for compliance with any training, testing or checking requirements, the proposal would not impose any additional cost on sponsors or manufacturers.

H. Quality Management Systems

The October 30, 2006, Final Rule established a Quality Management System (QMS) for FSTDs. The QMS is divided into two separate categories—a mandatory program and a voluntary program. This proposal would remove the details regarding the voluntary program from Appendix E. The proposal also clarifies the obligation of sponsors to be consistent in their conduct of internal assessments and clarifies the potential for increase in internal audit intervals.

Under the proposal, the National Simulator Program Manager (NSPM) would conduct continuing qualification evaluations of each FSTD every 12 months unless the NSPM becomes aware of discrepancies or performance problems with the device that warrants more frequent evaluations. The continuing qualification evaluations frequency could be extended beyond the 12-month interval if: (1) The sponsor

implements a voluntary QMS program; and (2) the NSPM determines that the administration of the QMS program and the FSTD performance justifies less frequent evaluations. However, in no case would the frequency of continuing qualification evaluations exceed 36 months.

I. New Information on Operation and Testing Requirements for FSTDs

The QPS material attached to this proposed rule adds 11 paragraphs of information to better explain the operation and testing requirements for FSTDs. The paragraphs provide information on the use of alternative data sources, alternative engines data, alternative avionics data, and engineering simulators to provide validation data. There are also information paragraphs on motion systems, sound systems, simulator qualifications for new or derivative airplanes, validation test tolerances, validation data roadmap, transport delay testing, and validation test data presentation.

V. Regulatory Notices and Analyses

Privacy Impact Statement for Proposed 14 CFR Part 60, Appendices A Through F

Legal Requirements

Section 522 of the Consolidated Appropriations Act of 2005 instructs DOT to conduct a privacy impact assessment (PIA) of proposed rules that will affect the privacy of individuals. The PIA should identify potential threats relating to the collection, handling, use, sharing and security of the data, the measures identified to mitigate these threats, and the rationale for the final decisions made for the rulemaking as a result of conducting the PIA.

Definitions

Sponsor means a certificate holder who seeks or maintains FSTD qualification and is responsible for the prescribed actions as prescribed in this part and the QPS for the appropriate FSTD and qualification level.

Certificate holder means a person issued a certificate under parts 119, 141, or 142 of this chapter or a person holding an approved course of training for flight engineers in accordance with part 63 of this chapter.

Individual means a living human being, specifically including a citizen of the United States or an alien lawfully admitted for permanent residence.

Personally Identifiable Information (PII) is any information that permits the identity of an individual to whom the information applies to be reasonably inferred by either direct or indirect means, singly or in combination with other data. Examples of PII include but are not limited to physical and online contact information, Social Security number or driver's license number.

Privacy Impact Assessment is an analysis of how a rulemaking would impact the way information is handled in order to ensure data handling conforms to applicable legal, regulatory, and policy requirements regarding privacy, determine the risks and effects the rulemaking will have on collecting, maintaining and sharing PII, and examine and evaluate protections and alternative processes for handling information to mitigate potential privacy risks.

Requirements for the Submission and Retention of PII as Part of Compliance With Proposed 14 CFR part 60, Flight Simulation Training Device Initial and Continuing Qualification and Use

The FAA proposes to amend the QPS requirements for FSTDs. Compliance with the QPS requirements is the responsibility of the FSTD sponsor. There are approximately 60 FSTD sponsors.

The proposed rule does not require sponsors to submit PII to the FAA or to maintain PII in their own records. However, the FAA recognizes that certain PII may be contained in a sponsor's records, including information about individuals who have used a particular FSTD. This information may include the person's name, employer, duty position, and type ratings. The FAA may request a sponsor to disclose this PII for investigation, compliance, or enforcement purposes. For example, the FAA may request the sponsor to provide the names of all individuals trained on a specific device if the FAA discovered that the device was not adequately simulating the aircraft and determined that those individuals needed to be retrained or reevaluated.

The FAA protects PII in accordance with *"Privacy Act Notice DOT/FAA 847—Aviation Records on Individuals (formerly General Air Transportation Records on Individuals)."* The Privacy Act Notice is available at *http://cio.ost.dot.gov/DOT/OST/Documents/files/records.html*.

The FAA did not conduct a PIA for this rulemaking because there are no new requirements for PII as part of these QPS amendments. In August 2004, the FAA released a PIA for airmen certification records. The PIA addresses the methodology the agency uses to collect, store, distribute, and protect PII for certificated airmen, including pilots. The PIA is available at *http://www.dot.gov/pia/faa_rms.htm*. This PIA would apply to any PII the FAA may receive from a sponsor in the course of exercising its oversight authority.

For more information or for comments and concerns on our privacy practices, please contact our Privacy Officer, Carla Mauney at *carla.mauney@faa.gov,* or by phone at (202) 267–9895.

Paperwork Reduction Act

Information collection requirements associated with this NPRM have been approved previously by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) and have been assigned OMB Control Number 2120–0680.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has reviewed the corresponding ICAO Standards and Recommended Practices and has identified no differences with these proposed regulations.

Economic Assessment, Initial Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Assessment

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96–354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96–39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, the Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of $100 million or more annually (adjusted

for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this proposed rule.

Department of Transportation Order DOT 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If the expected cost impact is so minimal that a proposed or final rule does not warrant a full evaluation, this order permits that a statement to that effect and the basis for it to be included in the preamble if a full regulatory evaluation of the cost and benefits is not prepared. Such a determination has been made for this proposed rule. The reasoning for this determination follows:

The FAA proposes to codify existing practice by requiring all existing FSTD visual scenes beyond the number required for qualification to meet specified requirements. The proposal also reorganizes certain sections of the QPS appendices and provides additional information on validation tests, established parameters for tolerances, acceptable data formats, and the use of alternative data sources. The proposed changes would ensure that the training and testing environment is accurate and realistic, would codify existing practice, and would provide greater harmonization with the international standards document for simulation. None of these proposed technical requirements would apply to simulators qualified before May 30, 2008, except for the proposal to codify existing practice regarding certain visual scene requirements. The overall impact of this proposal would result in minimal to no cost increases for manufacturers and sponsors.

The FAA has, therefore, determined that this proposed rule is not a ''significant regulatory action'' as defined in section 3(f) of Executive Order 12866, and is not ''significant'' as defined in DOT's Regulatory Policies and Procedures.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes ''as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration.'' The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

The FAA proposes to codify existing practice by requiring all existing FSTD visual scenes beyond the number required for qualification to meet specified requirements. The proposal also reorganizes certain sections of the QPS appendices and provides additional information on validation tests, established parameters for tolerances, acceptable data formats, and the use of alternative data sources. The proposed changes would ensure that the training and testing environment is accurate and more realistic, would codify existing practice, and would provide greater harmonization with the international standards document for simulation. None of these proposed technical requirements would apply to simulators qualified before May 30, 2008, except for the proposal to codify existing practice regarding certain visual scene requirements. The overall impact of this proposal would result in minimal to no cost increases for manufacturers and sponsors. Therefore the FAA certifies that this proposed rule would not have a significant economic impact on a substantial number of small entities. The FAA solicits comments regarding this determination.

International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39) prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this proposed rule and has determined that it would impose the same costs on domestic and international entities and thus has a neutral trade impact.

Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of $100 million or more (adjusted annually for inflation with the base year 1995) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a ''significant regulatory action.'' The FAA currently uses an inflation-adjusted value of $128.1 million in lieu of $100 million. This proposed rule does not contain such a mandate.

Executive Order 13132, Federalism

The FAA has analyzed this notice of proposed rulemaking under the principles and criteria of Executive Order 13132, Federalism. We determined that this proposal will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, we determined that this proposed rule will not have federalism implications.

Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this proposed rule action qualifies for the categorical exclusion identified in paragraph 312f and involves no extraordinary circumstances.

Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA has analyzed this proposed rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). We have determined that it is not a ''significant energy action'' under the executive order because it is not a ''significant regulatory action'' under Executive Order 12866, and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

Additional Information

Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, please send only one copy of written comments, or if you are filing comments electronically, please submit your comments only one time.

We will file in the docket all comments we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

Proprietary or Confidential Business Information

Do not file in the docket information that you consider to be proprietary or confidential business information. Send or deliver this information directly to the person identified in the **FOR FURTHER INFORMATION CONTACT** section of this document. You must mark the information that you consider proprietary or confidential. If you send the information on a disk or CD–ROM, mark the outside of the disk or CD–ROM and also identify electronically within the disk or CD–ROM the specific information that is proprietary or confidential.

Under 14 CFR 11.35(b), when we are aware of proprietary information filed with a comment, we do not place it in the docket. We hold it in a separate file to which the public does not have access, and we place a note in the docket that we have received it. If we receive a request to examine or copy this information, we treat it as any other request under the Freedom of Information Act (5 U.S.C. 552). We process such a request under the DOT procedures found in 49 CFR part 7.

Availability of Rulemaking Documents

You can get an electronic copy of rulemaking documents using the Internet by—

1. Searching the Federal eRulemaking Portal (*http://www.regulations.gov*);

2. Visiting the FAA's Regulations and Policies Web page at *http://www.faa.gov/regulations_policies/; or*

3. Accessing the Government Printing Office's Web page at *http://www.gpoaccess.gov/fr/index.html.*

You can also get a copy by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267–9680. Make sure to identify the docket number, notice number, or amendment number of this rulemaking.

List of Subjects in 14 CFR Part 60

Airmen, Aviation safety, Reporting and recordkeeping requirements.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to further amend the final rule amending part 60 of Title 14 of the Code of Federal Regulations, as published at 71 FR 63392 on October 30, 2006, as follows:

PART 60—FLIGHT SIMULATION TRAINING DEVICE INITIAL AND CONTINUING QUALIFICATION AND USE

1. The authority citation for part 60 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, and 44701.

2. Part 60, published at 71 FR 63392 on October 30, 2006 is amended by revising appendices A–F to read as follows:

Appendix A to Part 60—Qualification Performance Standards for Airplane Full Flight Simulators

Begin Information

This appendix establishes the standards for Airplane Full Flight Simulator (FFS) evaluation and qualification. The Flight Standards Service, National Simulator Program Manager (NSPM), is responsible for the development, application, and implementation of the standards contained within this appendix. The procedures and criteria specified in this appendix will be used by the NSPM, or a person assigned by the NSPM, when conducting airplane FFS evaluations.

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Attachment 6 to Appendix A to Part 60—FSTD Directives Applicable to Airplane Flight Simulators

End Information

1. Introduction

Begin Information

a. This appendix contains background information as well as regulatory and informative material as described later in this section. To assist the reader in determining what areas are required and what areas are permissive, the text in this appendix is divided into two sections: ''QPS Requirements'' and ''Information.'' The QPS Requirements sections contain details regarding compliance with the part 60 rule

language. These details are regulatory, but are found only in this appendix. The Information sections contain material that is advisory in nature, and designed to give the user general information about the regulation.

b. Questions regarding the contents of this publication should be sent to the U.S. Department of Transportation, Federal Aviation Administration, Flight Standards Service, National Simulator Program Staff, AFS–205, 100 Hartsfield Centre Parkway, Suite 400, Atlanta, Georgia, 30354. Telephone contact numbers for the NSP are: phone, 404–832–4700; fax, 404–761–8906. The general email address for the NSP office is: *9-aso-avr-sim-team@faa.gov.* The NSP Internet Web Site address is: *http://www.faa.gov/safety/programs_initiatives/aircraft_aviation/nsp/.* On this Web Site you will find an NSP personnel list with telephone and email contact information for each NSP staff member, a list of qualified flight simulation devices, advisory circulars, a description of the qualification process, NSP policy, and an NSP ''In-Works'' section. Also linked from this site are additional information sources, handbook bulletins, frequently asked questions, a listing and text of the Federal Aviation Regulations, Flight Standards Inspector's handbooks, and other FAA links.

c. The NSPM encourages the use of electronic media for all communication, including any record, report, request, test, or statement required by this appendix. The electronic media used must have adequate security provisions and be acceptable to the NSPM. The NSPM recommends inquiries on system compatibility, and minimum system requirements are also included on the NSP Web site.

d. Related Reading References.

(1) 14 CFR part 60.

(2) 14 CFR part 61.

(3) 14 CFR part 63.

(4) 14 CFR part 119.

(5) 14 CFR part 121.

(6) 14 CFR part 125.

(7) 14 CFR part 135.

(8) 14 CFR part 141.

(9) 14 CFR part 142.

(10) Advisory Circular (AC) 120–28C, Criteria for Approval of Category III Landing Weather Minima.

(11) AC 120–29, Criteria for Approving Category I and Category II Landing Minima for part 121 operators.

(12) AC 120–35B, Line Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation.

(13) AC 120–41, Criteria for Operational Approval of Airborne Wind Shear Alerting and Flight Guidance Systems.

(14) AC 120–57A, Surface Movement Guidance and Control System (SMGS).

(15) AC 150/5300–13, Airport Design.

(16) AC 150/5340–1G, Standards for Airport Markings.

(17) AC 150/5340–4C, Installation Details for Runway Centerline Touchdown Zone Lighting Systems.

(18) AC 150/5340–19, Taxiway Centerline Lighting System.

(19) AC 150/5340–24, Runway and Taxiway Edge Lighting System.

(20) AC 150/5345–28D, Precision Approach Path Indicator (PAPI) Systems.

(21) International Air Transport Association document, ''Flight Simulator Design and Performance Data Requirements,'' as amended.

(22) AC 25–7, as amended, Flight Test Guide for Certification of Transport Category Airplanes.

(23) AC 23–8A, as amended, Flight Test Guide for Certification of Part 23 Airplanes.

(24) International Civil Aviation Organization (ICAO) Manual of Criteria for the Qualification of Flight Simulators, as amended.

(25) Airplane Flight Simulator Evaluation Handbook, Volume I, as amended and Volume II, as amended, The Royal Aeronautical Society, London, UK.

(26) FAA Publication FAA–S–8081 series (Practical Test Standards for Airline Transport Pilot Certificate, Type Ratings, Commercial Pilot, and Instrument Ratings).

(27) The FAA Aeronautical Information Manual (AIM). An electronic version of the AIM is on the Internet at *http://www.faa.gov/atpubs.*

End Information

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2. Applicability (§§ 60.1 and 60.2)

Begin Information

No additional regulatory or informational material applies to § 60.1, Applicability, or to § 60.2, Applicability of sponsor rules to persons who are not sponsors and who are engaged in certain unauthorized activities.

End Information

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3. Definitions (§ 60.3)

Begin Information

See Appendix F of this part for a list of definitions and abbreviations from part 1 and part 60, including the appropriate appendices of part 60.

End Information

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4. Qualification Performance Standards (§ 60.4)

Begin Information

No additional regulatory or informational material applies to § 60.4, Qualification Performance Standards.

End Information

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5. Quality Management System (§ 60.5)

Begin Information

See Appendix E of this part for additional regulatory and informational material regarding Quality Management Systems.

End Information

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6. Sponsor Qualification Requirements (§ 60.7)

Begin Information

a. The intent of the language in § 60.7(b) is to have a specific FFS, identified by the sponsor, used at least once in an FAA-approved flight training program for the airplane simulated during the 12-month period described. The identification of the specific FFS may change from one 12-month period to the next 12-month period as long as the sponsor sponsors and uses at least one FFS at least once during the prescribed period. No minimum number of hours or minimum FFS periods are required.

b. The following examples describe acceptable operational practices:

(1) Example One.

(a) A sponsor is sponsoring a single, specific FFS for its own use, in its own facility or elsewhere—this single FFS forms the basis for the sponsorship. The sponsor uses that FFS at least once in each 12-month period in the sponsor's FAA-approved flight training program for the airplane simulated. This 12-month period is established according to the following schedule:

(i) If the FFS was qualified prior to May 30, 2008, the 12-month period begins on the date of the first continuing qualification evaluation conducted in accordance with § 60.19 after May 30, 2008, and continues for each subsequent 12-month period;

(ii) A device qualified on or after May 30, 2008, will be required to undergo an initial or upgrade evaluation in accordance with § 60.15. Once the initial or upgrade evaluation is complete, the first continuing qualification evaluation will be conducted within 6 months. The 12-month continuing qualification evaluation cycle begins on that date and continues for each subsequent 12-month period.

(b) There is no minimum number of hours of FFS use required.

(c) The identification of the specific FFS may change from one 12-month period to the next 12-month period as long as the sponsor sponsors and uses at least one FFS at least once during the prescribed period.

(2) Example Two.

(a) A sponsor sponsors an additional number of FFSs, in its facility or elsewhere. Each additionally sponsored FFS must be—

(i) Used by the sponsor in the sponsor's FAA-approved flight training program for the airplane simulated (as described in § 60.7(d)(1)); OR

(ii) Used by another FAA certificate holder in that other certificate holder's FAA-approved flight training program for the airplane simulated (as described in § 60.7(d)(1)). This 12-month period is established in the same manner as in example one; OR

(iii) Provided a statement each year from a qualified pilot, (after having flown the airplane, not the subject FFS or another FFS, during the preceding 12-month period) stating that the subject FFSs performance and handling qualities represent the airplane (as described in § 60.7(d)(2)). This statement is provided at least once in each 12-month period established in the same manner as in example one.

(b) No minimum number of hours of FFS use is required.

(3) Example Three.

(a) A sponsor in New York (in this example, a Part 142 certificate holder) establishes ''satellite'' training centers in Chicago and Moscow.

(b) The satellite function means that the Chicago and Moscow centers must operate under the New York center's certificate (in accordance with all of the New York center's practices, procedures, and policies; e.g., instructor and/or technician training/checking requirements, record keeping, QMS program).

(c) All of the FFSs in the Chicago and Moscow centers could be dry-leased (i.e., the certificate holder does not have and use FAA-approved flight training programs for the FFSs in the Chicago and Moscow centers) because—

(i) Each FFS in the Chicago center and each FFS in the Moscow center is used at least once each 12-month period by another FAA certificate holder in that other certificate holder's FAA-approved flight training program for the airplane (as described in § 60.7(d)(1)); or

(ii) A statement is obtained from a qualified pilot (having flown the airplane, not the subject FFS or another FFS during the preceding 12-month period) stating that the performance and handling qualities of each FFS in the Chicago and Moscow centers represents the airplane (as described in § 60.7(d)(2)).

End Information

7. Additional Responsibilities of the Sponsor (§ 60.9)

Begin Information

The phrase ''as soon as practicable'' in § 60.9(a) means without unnecessarily disrupting or delaying beyond a reasonable time the training, evaluation, or experience being conducted in the FSTD.

End Information

8. FSTD Use (§ 60.11)

Begin Information

No additional regulatory or informational material applies to § 60.11, Simulator Use.

End Information

9. FSTD Objective Data Requirements (§ 60.13)

Begin QPS Requirements

a. Flight test data used to validate FFS performance and handling qualities must have been gathered in accordance with a flight test program containing the following:

(1) A flight test plan consisting of:

(a) The maneuvers and procedures required for aircraft certification and simulation programming and validation.

(b) For each maneuver or procedure—

(i) The procedures and control input the flight test pilot and/or engineer used.

(ii) The atmospheric and environmental conditions.

(iii) The initial flight conditions.

(iv) The airplane configuration, including weight and center of gravity.

(v) The data to be gathered.

(vi) All other information necessary to recreate the flight test conditions in the FFS.

(2) Appropriately qualified flight test personnel.

(3) An understanding of the accuracy of the data to be gathered using appropriate alternative data sources, procedures, and instrumentation that is traceable to a recognized standard as described in Attachment 2, Table A2E.

(4) Appropriate and sufficient data acquisition equipment or system(s), including appropriate data reduction and analysis methods and techniques, as would be acceptable to the FAA's Aircraft Certification Service.

b. The data, regardless of source, must be presented:

(1) In a format that supports the FFS validation process;

(2) In a manner that is clearly readable and annotated correctly and completely;

(3) With resolution sufficient to determine compliance with the tolerances set forth in Attachment 2, Table A2A of this appendix.

(4) With any necessary instructions or other details provided, such as yaw damper or throttle position; and

(5) Without alteration, adjustments, or bias; however the data may be re-scaled, digitized, or otherwise manipulated to fit the desired presentation.

c. After completion of any additional flight test, a flight test report must be submitted in support of the validation data. The report must contain sufficient data and rationale to support qualification of the FFS at the level requested.

d. As required by § 60.13(f), the sponsor must notify the NSPM when it becomes aware that an addition to, an amendment to, or a revision of data that may relate to FFS performance or handling characteristics is available. The data referred to in this paragraph are those data that are used to validate the performance, handling qualities, or other characteristics of the aircraft, including data related to any relevant changes occurring after the type certificate was issued. The sponsor must—

(1) Within 10 calendar days, notify the NSPM of the existence of this data; and

(2) Within 45 calendar days, notify the NSPM of—

(a) The schedule to incorporate this data into the FFS; or

(b) The reason for not incorporating this data into the FFS.

e. In those cases where the objective test results authorize a ''snapshot test'' or a ''series of snapshot tests'' results in lieu of a time-history result, the sponsor or other data provider must ensure that a steady state condition exists at the instant of time captured by the ''snapshot.'' The steady state condition must exist from 4 seconds prior to, through 1 second following, the instant of time captured by the snapshot.

End QPS Requirements

Begin Information

f. The FFS sponsor is encouraged to maintain a liaison with the manufacturer of the aircraft being simulated (or with the holder of the aircraft type certificate for the aircraft being simulated if the manufacturer is no longer in business), and, if appropriate, with the person having supplied the aircraft data package for the FFS in order to facilitate the notification required by § 60.13(f).

g. It is the intent of the NSPM that for new aircraft entering service, at a point well in advance of preparation of the Qualification Test Guide (QTG), the sponsor should submit to the NSPM for approval, a descriptive document (a validation data roadmap) containing the plan for acquiring the validation data, including data sources. This document should clearly identify sources of data for all required tests, a description of the validity of these data for a specific engine type and thrust rating configuration, and the revision levels of all avionics affecting the performance or flying qualities of the aircraft. Additionally, this document should provide other information, such as the rationale or explanation for cases where data or data parameters are missing, instances where engineering simulation data are used or where flight test methods require further explanations. It should also provide a brief narrative describing the cause and effect of any deviation from data requirements. The aircraft manufacturer may provide this document.

h. There is no requirement for any flight test data supplier to submit a flight test plan or program prior to gathering flight test data. However, the NSPM notes that inexperienced data gatherers often provide data that is irrelevant, improperly marked, or lacking adequate justification for selection. Other problems include inadequate information regarding initial conditions or test maneuvers. The NSPM has been forced to refuse these data submissions as validation data for an FFS evaluation. It is for this reason that the NSPM recommends that any data supplier not previously experienced in this area review the data necessary for programming and for validating the performance of the FFS, and discuss the flight test plan anticipated for acquiring such data with the NSPM well in advance of commencing the flight tests.

i. The NSPM will consider, on a case-by-case basis, whether or not to approve supplemental validation data derived from flight data recording systems such as a Quick Access Recorder or Flight Data Recorder.

End Information

10. Special Equipment and Personnel Requirements for Qualification of the FSTDs (§ 60.14)

Begin Information

a. In the event that the NSPM determines that special equipment or specifically qualified persons will be required to conduct

an evaluation, the NSPM will make every attempt to notify the sponsor at least one (1) week, but in no case less than 72 hours, in advance of the evaluation. Examples of special equipment include spot photometers, flight control measurement devices, and sound analyzers. Examples of specially qualified personnel include individuals specifically qualified to install or use any special equipment when its use is required.

b. Examples of a special evaluation include an evaluation conducted after an FFS is moved, at the request of the TPAA, or as a result of comments received from users of the FFS that raise questions about the continued qualification or use of the FFS.

End Information

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11. Initial (and Upgrade) Qualification Requirements (§ 60.15)

Begin QPS Requirements

a. In order to be qualified at a particular qualification level, the FFS must:

(1) Meet the general requirements listed in Attachment 1;

(2) Meet the objective testing requirements listed in Attachment 2; and

(3) Satisfactorily accomplish the subjective tests listed in Attachment 3.

b. The request described in § 60.15(a) must include all of the following:

(1) A statement that the FFS meets all of the applicable provisions of this part and all applicable provisions of the QPS.

(2) A confirmation that the sponsor will forward to the NSPM the statement described in § 60.15(b) in such time as to be received no later than 5 business days prior to the scheduled evaluation and may be forwarded to the NSPM via traditional or electronic means.

(3) A qualification test guide (QTG), acceptable to the NSPM, that includes all of the following:

(a) Objective data obtained from aircraft testing or another approved source.

(bi) Correlating objective test results obtained from the performance of the FFS as prescribed in the appropriate QPS.

(c) The result of FFS subjective tests prescribed in the appropriate QPS.

(d) A description of the equipment necessary to perform the evaluation for initial qualification and the continuing qualification evaluations.

c. The QTG described in paragraph (a)(3) of this section, must provide the documented proof of compliance with the simulator objective tests in Attachment 2, Table A2A of this appendix.

d. The QTG is prepared and submitted by the sponsor, or the sponsor's agent on behalf of the sponsor, to the NSPM for review and approval, and must include, for each objective test:

(1) Parameters, tolerances, and flight conditions;

(2) Pertinent and complete instructions for the conduct of automatic and manual tests;

(3) A means of comparing the FFS test results to the objective data;

(4) Any other information as necessary, to assist in the evaluation of the test results;

(5) Other information appropriate to the qualification level of the FFS.

e. The QTG described in paragraphs (a)(3) and (b) of this section, must include the following:

(1) A QTG cover page with sponsor and FAA approval signature blocks (see Attachment 4, Figure A4C, for a sample QTG cover page).

(2) A continuing qualification evaluation requirements page. This page will be used by the NSPM to establish and record the frequency with which continuing qualification evaluations must be conducted and any subsequent changes that may be determined by the NSPM in accordance with § 60.19. See Attachment 4, Figure A4G, for a sample Continuing Qualification Evaluation Requirements page.

(3) An FFS information page that provides the information listed in this paragraph (see Attachment 4, Figure A4B, for a sample FFS information page). For convertible FFSs, the sponsor must submit a separate page for each configuration of the FFS.

(a) The sponsor's FFS identification number or code.

(b) The airplane model and series being simulated.

(c) The aerodynamic data revision number or reference.

(d) The source of the basic aerodynamic model and the aerodynamic coefficient data used to modify the basic model.

(e) The engine model(s) and its data revision number or reference.

(f) The flight control data revision number or reference.

(g) The flight management system identification and revision level.

(h) The FFS model and manufacturer.

(i) The date of FFS manufacture.

(j) The FFS computer identification.

(k) The visual system model and manufacturer, including display type.

(l) The motion system type and manufacturer, including degrees of freedom.

(4) A Table of Contents.

(5) A log of revisions and a list of effective pages.

(6) A list of all relevant data references.

(7) A glossary of terms and symbols used (including sign conventions and units).

(8) Statements of compliance and capability (SOCs) with certain requirements. SOCs must provide references to the sources of information that show the capability of the FFS to comply with the requirement, a rationale explaining how the referenced material is used, mathematical equations and parameter values used, and the conclusions reached; i.e., that the FFS complies with the requirement.

(9) Recording procedures or equipment required to accomplish the objective tests.

(10) The following information for each objective test designated in Attachment 2, Table A2A, as applicable to the qualification level sought:

(a) Name of the test.

(b) Objective of the test.

(c) Initial conditions.

(d) Manual test procedures.

(e) Automatic test procedures (if applicable).

(f) Method for evaluating FFS objective test results.

(g) List of all relevant parameters driven or constrained during the automatically conducted test(s).

(h) List of all relevant parameters driven or constrained during the manually conducted test(s).

(i) Tolerances for relevant parameters.

(j) Source of Validation Data (document and page number).

(k) Copy of the Validation Data (if located in a separate binder, a cross reference for the identification and page number for pertinent data location must be provided).

(l) Simulator Objective Test Results as obtained by the sponsor. Each test result must reflect the date completed and must be clearly labeled as a product of the device being tested.

f. A convertible FFS is addressed as a separate FFS for each model and series airplane to which it will be converted and for the FAA qualification level sought. If a sponsor seeks qualification for two or more models of an airplane type using a convertible FFS, the sponsor must submit a QTG for each airplane model, or a QTG for the first airplane model and a supplement to that QTG for each additional airplane model. The NSPM will conduct evaluations for each airplane model.

g. Form and manner of presentation of objective test results in the QTG:

(1) The sponsor's FFS test results must be recorded in a manner acceptable to the NSPM, that allows easy comparison of the FFS test results to the validation data (e.g., use of a multi-channel recorder, line printer, cross plotting, overlays, transparencies).

(2) FFS results must be labeled using terminology common to airplane parameters as opposed to computer software identifications.

(3) Validation data documents included in a QTG may be photographically reduced only if such reduction will not alter the graphic scaling or cause difficulties in scale interpretation or resolution.

(4) Scaling on graphical presentations must provide the resolution necessary to evaluate the parameters shown in Attachment 2, Table A2A of this appendix.

(5) Tests involving time histories, data sheets (or transparencies thereof) and FFS test results must be clearly marked with appropriate reference points to ensure an accurate comparison between the FFS and the airplane with respect to time. Time histories recorded via a line printer are to be clearly identified for cross plotting on the airplane data. Over-plots must not obscure the reference data.

h. The sponsor may elect to complete the QTG objective and subjective tests at the manufacturer's facility or at the sponsor's training facility. If the tests are conducted at the manufacturer's facility, the sponsor must repeat at least one-third of the tests at the sponsor's training facility in order to substantiate FFS performance. The QTG must be clearly annotated to indicate when and where each test was accomplished. Tests conducted at the manufacturer's facility and at the sponsor's training facility must be conducted after the FFS is assembled with systems and sub-systems functional and operating in an interactive manner. The test results must be submitted to the NSPM.

i. The sponsor must maintain a copy of the MQTG at the FFS location.

j. All FFSs for which the initial qualification is conducted after May 30, 2014, must have an electronic MQTG (eMQTG) including all objective data obtained from airplane testing, or another approved source (reformatted or digitized), together with correlating objective test results obtained from the performance of the FFS (reformatted or digitized) as prescribed in this appendix. The eMQTG must also contain the general FFS performance or demonstration results (reformatted or digitized) prescribed in this appendix, and a description of the equipment necessary to perform the initial qualification evaluation and the continuing qualification evaluations. The eMQTG must include the original validation data used to validate FFS performance and handling qualities in either the original digitized format from the data supplier or an electronic scan of the original time-history plots that were provided by the data supplier. A copy of the eMQTG must be provided to the NSPM.

k. All other FFSs not covered in subparagraph ''j'' must have an electronic copy of the MQTG by May 30, 2014. A copy of the eMQTG must be provided to the NSPM. This may be provided by an electronic scan presented in a Portable Document File (PDF), or similar format acceptable to the NSPM.

l. During the initial (or upgrade) qualification evaluation conducted by the NSPM, the sponsor must also provide a person who is a user of the device (e.g., a qualified pilot or instructor pilot with flight time experience in that aircraft) and knowledgeable about the operation of the aircraft and the operation of the FFS.

End QPS Requirements

Begin Information

m. Only those FFSs that are sponsored by a certificate holder as defined in Appendix F will be evaluated by the NSPM. However, other FFS evaluations may be conducted on a case-by-case basis as the Administrator deems appropriate, but only in accordance with applicable agreements.

n. The NSPM will conduct an evaluation for each configuration, and each FFS must be evaluated as completely as possible. To ensure a thorough and uniform evaluation, each FFS is subjected to the general simulator requirements in Attachment 1, the objective tests listed in Attachment 2, and the subjective tests listed in Attachment 3 of this appendix. The evaluations described herein will include, but not necessarily be limited to the following:

(1) Airplane responses, including longitudinal and lateral-directional control responses (see Attachment 2 of this appendix);

(2) Performance in authorized portions of the simulated airplane's operating envelope, to include tasks evaluated by the NSPM in the areas of surface operations, takeoff, climb, cruise, descent, approach, and landing as well as abnormal and emergency operations (see Attachment 2 of this appendix);

(3) Control checks (see Attachment 1 and Attachment 2 of this appendix);

(4) Flight deck configuration (see Attachment 1 of this appendix);

(5) Pilot, flight engineer, and instructor station functions checks (see Attachment 1 and Attachment 3 of this appendix);

(6) Airplane systems and sub-systems (as appropriate) as compared to the airplane simulated (see Attachment 1 and Attachment 3 of this appendix);

(7) FFS systems and sub-systems, including force cueing (motion), visual, and aural (sound) systems, as appropriate (see Attachment 1 and Attachment 2 of this appendix); and

(8) Certain additional requirements, depending upon the qualification level sought, including equipment or circumstances that may become hazardous to the occupants. The sponsor may be subject to Occupational Safety and Health Administration requirements.

o. The NSPM administers the objective and subjective tests, which includes an examination of functions. The tests include a qualitative assessment of the FFS by an NSP pilot. The NSP evaluation team leader may assign other qualified personnel to assist in accomplishing the functions examination and/or the objective and subjective tests performed during an evaluation when required.

(1) Objective tests provide a basis for measuring and evaluating FFS performance and determining compliance with the requirements of this part.

(2) Subjective tests provide a basis for:

(a) Evaluating the capability of the FFS to perform over a typical utilization period;

(b) Determining that the FFS satisfactorily simulates each required task;

(c) Verifying correct operation of the FFS controls, instruments, and systems; and

(d) Demonstrating compliance with the requirements of this part.

p. The tolerances for the test parameters listed in Attachment 2 of this appendix reflect the range of tolerances acceptable to the NSPM for FFS validation and are not to be confused with design tolerances specified for FFS manufacture. In making decisions regarding tests and test results, the NSPM relies on the use of operational and engineering judgment in the application of data (including consideration of the way in which the flight test was flown and way the data was gathered and applied) data presentations, and the applicable tolerances for each test.

q. In addition to the scheduled continuing qualification evaluation, each FFS is subject to evaluations conducted by the NSPM at any time without prior notification to the sponsor. Such evaluations would be accomplished in a normal manner (i.e., requiring exclusive use of the FFS for the conduct of objective and subjective tests and an examination of functions) if the FFS is not being used for flight crewmember training, testing, or checking. However, if the FFS were being used, the evaluation would be conducted in a non-exclusive manner. This non-exclusive evaluation will be conducted by the FFS evaluator accompanying the check airman, instructor, Aircrew Program Designee (APD), or FAA inspector aboard the FFS along with the student(s) and observing the operation of the FFS during the training, testing, or checking activities.

r. Problems with objective test results are handled as follows:

(1) If a problem with an objective test result is detected by the NSP evaluation team during an evaluation, the test may be repeated or the QTG may be amended.

(2) If it is determined that the results of an objective test do not support the level requested but do support a lower level, the NSPM may qualify the FFS at that lower level. For example, if a Level D evaluation is requested and the FFS fails to meet sound test tolerances, it could be qualified at Level C.

s. After an FFS is successfully evaluated, the NSPM issues a Statement of Qualification (SOQ) to the sponsor. The NSPM recommends the FFS to the TPAA, who will approve the FFS for use in a flight training program. The SOQ will be issued at the satisfactory conclusion of the initial or continuing qualification evaluation and will list the tasks for which the FSTD is qualified, referencing the tasks described in Table A1B in attachment 1. However, it is the sponsor's responsibility to obtain TPAA approval prior to using the FSTD in an FAA-approved flight training program.

t. Under normal circumstances, the NSPM establishes a date for the initial or upgrade evaluation within ten (10) working days after determining that a complete QTG is acceptable. Unusual circumstances may warrant establishing an evaluation date before this determination is made. A sponsor may schedule an evaluation date as early as 6 months in advance. However, there may be a delay of 45 days or more in rescheduling and completing the evaluation if the sponsor is unable to meet the scheduled date. See Attachment 4, Figure A4A, Sample Request for Initial, Upgrade, or Reinstatement Evaluation.

u. The numbering system used for objective test results in the QTG should closely follow the numbering system set out in Attachment 2, FFS Objective Tests, Table A2A.

v. Contact the NSPM or visit the NSPM Web site for additional information regarding the preferred qualifications of pilots used to meet the requirements of § 60.15(d).

w. Examples of the exclusions for which the FFS might not have been subjectively tested by the sponsor or the NSPM and for which qualification might not be sought or granted, as described in § 60.15(g)(6), include windshear training and circling approaches.

End Information

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12. Additional Qualifications for a Currently Qualified FSTD (§ 60.16)

Begin Information

No additional regulatory or informational material applies to § 60.16, Additional Qualifications for a Currently Qualified FFS.

End Information

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13. Previously Qualified FSTDs (§ 60.17)

Begin QPS Requirements

a. In instances where a sponsor plans to remove an FFS from active status for a period of less than two years, the following procedures apply:

(1) The NSPM must be notified in writing and the notification must include an estimate of the period that the FFS will be inactive;

(2) Continuing Qualification evaluations will not be scheduled during the inactive period;

(3) The NSPM will remove the FFS from the list of qualified FSTDs on a mutually established date not later than the date on which the first missed continuing qualification evaluation would have been scheduled;

(4) Before the FFS is restored to qualified status, it must be evaluated by the NSPM. The evaluation content and the time required to accomplish the evaluation is based on the number of continuing qualification evaluations and sponsor-conducted quarterly inspections missed during the period of inactivity.

(5) The sponsor must notify the NSPM of any changes to the original scheduled time out of service;

b. Simulators qualified prior to May 30, 2008, are not required to meet the general simulation requirements, the objective test requirements or the subjective test requirements of attachments 1, 2, and 3 of this appendix as long as the simulator continues to meet the test requirements contained in the MQTG developed under the original qualification basis.

c. After [date 1 year after effective date of the final rule] each visual scene or airport model beyond the minimum required for the FSTD qualification level that is installed in and available for use in a qualified FSTD must meet the requirements described in attachment 3 of this appendix.

End QPS Requirements

Begin Information

d. Other certificate holders or persons desiring to use an FFS may contract with FFS sponsors to use FFSs previously qualified at a particular level for an airplane type and approved for use within an FAA-approved flight training program. Such FFSs are not required to undergo an additional qualification process, except as described in § 60.16.

e. Each FFS user must obtain approval from the appropriate TPAA to use any FFS in an FAA-approved flight training program.

f. The intent of the requirement listed in § 60.17(b), for each FFS to have a Statement of Qualification within 6 years, is to have the availability of that statement (including the configuration list and the limitations to authorizations) to provide a complete picture of the FFS inventory regulated by the FAA. The issuance of the statement will not require any additional evaluation or require any adjustment to the evaluation basis for the FFS.

g. Downgrading of an FFS is a permanent change in qualification level and will necessitate the issuance of a revised Statement of Qualification to reflect the revised qualification level, as appropriate. If a temporary restriction is placed on an FFS because of a missing, malfunctioning, or inoperative component or on-going repairs, the restriction is not a permanent change in qualification level. Instead, the restriction is temporary and is removed when the reason for the restriction has been resolved.

h. It is not the intent of the NSPM to discourage the improvement of existing simulation (e.g., the ''updating'' of a visual system to a newer model, or the replacement of the IOS with a more capable unit) by requiring the ''updated'' device to meet the qualification standards current at the time of the update. Depending on the extent of the update, the NSPM may require that the updated device be evaluated and may require that an evaluation include all or a portion of the elements of an initial evaluation. However, the standards against which the device would be evaluated are those that are found in the MQTG for that device.

i. The NSPM will determine the evaluation criteria for an FSTD that has been removed from active status. The criteria will be based on the number of continuing qualification evaluations and quarterly inspections missed during the period of inactivity. For example, if the FFS were out of service for a 1 year period, it would be necessary to complete the entire QTG, since all of the quarterly evaluations would have been missed. The NSPM will also consider how the FFS was stored, whether parts were removed from the FFS and whether the FFS was disassembled.

j. The FFS will normally be requalified using the FAA-approved MQTG and the criteria that was in effect prior to its removal from qualification. However, inactive periods of 2 years or more will require requalification under the standards in effect and current at the time of requalification.

End Information

14. Inspection, Continuing Qualification Evaluation, and Maintenance Requirements (§ 60.19)

Begin QPS Requirements

a. The sponsor must conduct a minimum of four evenly spaced inspections throughout the year. The objective test sequence and content of each inspection must be developed by the sponsor and must be acceptable to the NSPM.

b. The description of the functional preflight inspection must be contained in the sponsor's QMS.

c. Record ''functional preflight'' in the FFS discrepancy log book or other acceptable location, including any item found to be missing, malfunctioning, or inoperative.

d. During the continuing qualification evaluation conducted by the NSPM, the sponsor must also provide a person knowledgeable about the operation of the aircraft and the operation of the FFS.

e. The NSPM will conduct continuing qualification evaluations every 12 months unless:

(1) The NSPM becomes aware of discrepancies or performance problems with the device that warrants more frequent evaluations; or

(2) The sponsor implements a QMS that justifies less frequent evaluations. However, in no case shall the frequency of a continuing qualification evaluation exceed 36 months.

End QPS Requirements

Begin Information

f. The sponsor's test sequence and the content of each quarterly inspection required in § 60.19(a)(1) should include a balance and a mix from the objective test requirement areas listed as follows:

(1) Performance.

(2) Handling qualities.

(3) Motion system (where appropriate).

(4) Visual system (where appropriate).

(5) Sound system (where appropriate).

(6) Other FFS systems.

g. If the NSP evaluator plans to accomplish specific tests during a normal continuing qualification evaluation that requires the use of special equipment or technicians, the sponsor will be notified as far in advance of the evaluation as practical; but not less than 72 hours. Examples of such tests include latencies, control dynamics, sounds and vibrations, motion, and/or some visual system tests.

h. The continuing qualification evaluations, described in § 60.19(b), will normally require 4 hours of FFS time. However, flexibility is necessary to address abnormal situations or situations involving aircraft with additional levels of complexity (e.g., computer controlled aircraft). The sponsor should anticipate that some tests may require additional time. The continuing qualification evaluations will consist of the following:

(1) Review of the results of the quarterly inspections conducted by the sponsor since the last scheduled continuing qualification evaluation.

(2) A selection of approximately 8 to 15 objective tests from the MQTG that provide an adequate opportunity to evaluate the performance of the FFS. The tests chosen will be performed either automatically or manually and should be able to be conducted within approximately one-third (⅓) of the allotted FFS time.

(3) A subjective evaluation of the FFS to perform a representative sampling of the tasks set out in attachment 3 of this appendix. This portion of the evaluation should take approximately two-thirds (⅔) of the allotted FFS time.

(4) An examination of the functions of the FFS may include the motion system, visual system, sound system, instructor operating station, and the normal functions and simulated malfunctions of the airplane systems. This examination is normally accomplished simultaneously with the subjective evaluation requirements.

End Information

15. Logging FSTDs Discrepancies (§ 60.20)

Begin Information

No additional regulatory or informational material applies to § 60.20. Logging FFS Discrepancies.

End Information

16. Interim Qualification of FSTDs for New Airplane Types or Models (§ 60.21)

Begin Information

No additional regulatory or informational material applies to § 60.21, Interim Qualification of FFSs for New Airplane Types or Models.

End Information

17. Modifications to FSTDs (§ 60.23)

Begin QPS Requirements

a. The notification described in § 60.23(c)(2) must include a complete description of the planned modification, with a description of the operational and engineering effect the proposed modification will have on the operation of the FFS and the results that are expected with the modification incorporated.

b. Prior to using the modified FFS:

(1) All the applicable objective tests completed with the modification incorporated, including any necessary updates to the MQTG (e.g., accomplishment of FSTD Directives) must be acceptable to the NSPM; and

(2) The sponsor must provide the NSPM with a statement signed by the MR that the factors listed in § 60.15(b) are addressed by the appropriate personnel as described in that section.

End QPS Requirements

Begin Information

FSTD Directives are considered modifications of an FFS. See Attachment 4 for a sample index of effective FSTD Directives. See Attachment 6 for a list of all effective FSTD Directives applicable to Airplane FFSs.

End Information

18. Operation with Missing, Malfunctioning, or Inoperative Components (§ 60.25)

Begin Information

a. The sponsor's responsibility with respect to § 60.25(a) is satisfied when the sponsor fairly and accurately advises the user of the current status of an FFS, including any missing, malfunctioning, or inoperative (MMI) component(s).

b. If the 29th or 30th day of the 30-day period described in § 60.25(b) is on a Saturday, a Sunday, or a holiday, the FAA will extend the deadline until the next business day.

c. In accordance with the authorization described in § 60.25(b), the sponsor may develop a discrepancy prioritizing system to accomplish repairs based on the level of impact on the capability of the FFS. Repairs having a larger impact on FFS capability to provide the required training, evaluation, or flight experience will have a higher priority for repair or replacement.

End Information

19. Automatic Loss of Qualification and Procedures for Restoration of Qualification (§ 60.27)

Begin Information

If the sponsor provides a plan for how the FFS will be maintained during its out-of-service period (e.g., periodic exercise of mechanical, hydraulic, and electrical systems; routine replacement of hydraulic fluid; control of the environmental factors in which the FFS is to be maintained) there is a greater likelihood that the NSPM will be able to determine the amount of testing required for requalification.

End Information

20. Other Losses of Qualification and Procedures for Restoration of Qualification (§ 60.29)

Begin Information

If the sponsor provides a plan for how the FFS will be maintained during its out-of-service period (e.g., periodic exercise of mechanical, hydraulic, and electrical systems; routine replacement of hydraulic fluid; control of the environmental factors in which the FFS is to be maintained) there is a greater likelihood that the NSPM will be able to determine the amount of testing required for requalification.

End Information

21. Recordkeeping and Reporting (§ 60.31)

Begin QPS Requirements

a. FSTD modifications can include hardware or software changes. For FSTD modifications involving software programming changes, the record required by § 60.31(a)(2) must consist of the name of the aircraft system software, aerodynamic model, or engine model change, the date of the change, a summary of the change, and the reason for the change.

b. If a coded form for recordkeeping is used, it must provide for the preservation and retrieval of information with appropriate security or controls to prevent the inappropriate alteration of such records after the fact.

End QPS Requirements

22. Applications, Logbooks, Reports, and Records: Fraud, Falsification, or Incorrect Statements (§ 60.33)

Begin Information

No additional regulatory or informational material applies to § 60.33, Applications, Logbooks, Reports, and Records: Fraud, Falsification, or Incorrect Statements.

23. Specific Full Flight Simulator Compliance Requirements (§ 60.35)

No additional regulatory or informational material applies to § 60.35, Specific FFS Compliance Requirements.

24. [Reserved]

25. FSTD Qualification on the Basis of a Bilateral Aviation Safety Agreement (BASA) (§ 60.37)

No additional regulatory or informational material applies to § 60.37, FSTD Qualification on the Basis of a Bilateral Aviation Safety Agreement (BASA).

End Information

Attachment 1 to Appendix A to Part 60—

General Simulator Requirements

Begin QPS Requirements

1. Requirements

a. Certain requirements included in this appendix must be supported with a Statement of Compliance and Capability (SOC), which may include objective and subjective tests. The SOC will confirm that the requirement was satisfied, and describe how the requirement was met, such as gear modeling approach or coefficient of friction sources. The requirements for SOCs and tests are indicated in the ''General Simulator Requirements'' column in Table A1A of this appendix.

b. Table A1A describes the requirements for the indicated level of FFS. Many devices include operational systems or functions that exceed the requirements outlined in this section. However, all systems will be tested and evaluated in accordance with this appendix to ensure proper operation.

End QPS Requirements

Begin Information

2. Discussion

a. This attachment describes the general simulator requirements for qualifying an airplane FFS. The sponsor should also consult the objective tests in attachment 2 and the examination of functions and subjective tests listed in attachment 3 to determine the complete requirements for a specific level simulator.

b. The material contained in this attachment is divided into the following categories:

(1) General flight deck configuration.

(2) Simulator programming.

(3) Equipment operation.

(4) Equipment and facilities for instructor/evaluator functions.
(5) Motion system.
(6) Visual system.
(7) Sound system.

c. Table A1A provides the standards for the General Simulator Requirements.

d. Table A1B provides the tasks that the sponsor will examine to determine whether the FSTD satisfactorily meets the requirements for flight crew training, testing, and experience, and provides the tasks for which the simulator may be qualified.

e. Table A1C provides the functions that an instructor/check airman must be able to control in the simulator.

f. It is not required that all of the tasks that appear on the List of Qualified Tasks (part of the SOQ) be accomplished during the initial or continuing qualification evaluation.

End Information

TABLE A1A.—MINIMUM SIMULATOR REQUIREMENTS

<<<QPS requirements>>>		Simulator levels				Information
Number	General simulator requirements	A	B	C	D	Notes
1. General Flight Deck Configuration						
1.a.	The simulator must have a flight deck that is a replica of the airplane simulated with controls, equipment, observable flight deck indicators, circuit breakers, and bulkheads properly located, functionally accurate and replicating the airplane. The direction of movement of controls and switches must be identical to the airplane. Pilot seats must allow the occupant to achieve the design "eye position" established for the airplane being simulated. Equipment for the operation of the flight deck windows must be included, but the actual windows need not be operable. Additional equipment such as fire axes, extinguishers, and spare light bulbs must be available in the FFS but may be relocated to a suitable location as near as practical to the original position. Fire axes, landing gear pins, and any similar purpose instruments need only be represented in silhouette. An SOC is required.	X	X	X	X	For simulator purposes, the flight deck consists of all that space forward of a cross section of the flight deck at the most extreme aft setting of the pilots' seats, including additional required crewmember duty stations and those required bulkheads aft of the pilot seats. For clarification, bulkheads containing only items such as landing gear pin storage compartments, fire axes or extinguishers, spare light bulbs, and aircraft document pouches are not considered essential and may be omitted.
1.b.	Those circuit breakers that affect procedures or result in observable flight deck indications must be properly located and functionally accurate. An SOC is required.	X	X	X	X	
2. Programming						
2.a.	A flight dynamics model that accounts for various combinations of drag and thrust normally encountered in flight must correspond to actual flight conditions, including the effect of change in airplane attitude, thrust, drag, altitude, temperature, gross weight, moments of inertia, center of gravity location, and configuration. An SOC is required.	X	X	X	X	
2.b.	The simulator must have the computer capacity, accuracy, resolution, and dynamic response needed to meet the qualification level sought. An SOC is required.	X	X	X	X	
2.c.	Surface operations must be represented to the extent that allows turns within the confines of the runway and adequate controls on the landing and roll-out from a crosswind approach to a landing. A subjective test is required.	X				
2.d.	Ground handling and aerodynamic programming must include the following: A subjective test is required for each.					
2.d.1. ...	Ground effect		X	X	X	Ground effect includes modeling that accounts for roundout, flare, touchdown, lift, drag, pitching moment, trim, and power while in ground effect.

TABLE A1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

<<<QPS requirements>>>		Simulator levels				Information
Number	General simulator requirements	A	B	C	D	Notes
2.d.2. ...	Ground reaction		X	X	X	Ground reaction includes modeling that accounts for strut deflections, tire friction, and side forces. This is the reaction of the airplane upon contact with the runway during landing, and may differ with changes in factors such as gross weight, airspeed, or rate of descent on touchdown.
2.d.3. ...	Ground handling characteristics, including aerodynamic and ground reaction modeling including steering inputs, operations with crosswind, braking, thrust reversing, deceleration, and turning radius.		X	X	X	
2.e.	The simulator must employ windshear models that provide training for recognition of windshear phenomena and the execution of recovery procedures. Models must be available to the instructor/evaluator for the following critical phases of flight: (1) Prior to takeoff rotation. (2) At liftoff. (3) During initial climb. (4) On final approach, below 500 ft AGL.					
	The QTG must reference the FAA Windshear Training Aid or present alternate airplane related data, including the implementation method(s) used. If the alternate method is selected, wind models from the Royal Aerospace Establishment (RAE), the Joint Airport Weather Studies (JAWS) Project and other recognized sources may be implemented, but must be supported and properly referenced in the QTG. Only those simulators meeting these requirements may be used to satisfy the training requirements of part 121 pertaining to a certificate holder's approved low-altitude windshear flight training program as described in § 121.409. Objective tests are required for qualification; see Attachment 2 and Attachment 5 of this appendix. A subjective test is required.			X	X	If desired, Level A and B simulators may qualify for windshear training by meeting these standards; see Attachment 5 of this appendix. Windshear models may consist of independent variable winds in multiple simultaneous components. The FAA Windshear Training Aid presents one acceptable means of compliance with simulator wind model requirements.
2.f.	The simulator must provide for manual and automatic testing of simulator hardware and software programming to determine compliance with simulator objective tests as prescribed in Attachment 2. An SOC is required.			X	X	Automatic "flagging" of out-of-tolerance situations is encouraged.
2.g.	Relative responses of the motion system, visual system, and flight deck instruments, measured by latency tests or transport delay tests. Motion onset should occur before the start of the visual scene change (the start of the scan of the first video field containing different information) but must occur before the end of the scan of that video field. Instrument response may not occur prior to motion onset. Test results must be within the following limits.					The intent is to verify that the simulator provides instrument, motion, and visual cues that are, within the stated time delays, like the airplane responses. For airplane response, acceleration in the appropriate, corresponding rotational axis is preferred.
2.g.1. ...	300 milliseconds of the airplane response.	X	X			
	Objective Tests are required.					
2.g.2. ...	150 milliseconds of the airplane response. Objective Tests are required.			X	X	

TABLE A1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

<<<QPS requirements>>>		Simulator levels				Information
Number	General simulator requirements	A	B	C	D	Notes
2.h.	The simulator must accurately reproduce the following runway conditions: (1) Dry. (2) Wet. (3) Icy. (4) Patchy Wet. (5) Patchy Icy. (6) Wet on Rubber Residue in Touchdown Zone.					
	An SOC is required.					
	Objective tests are required only for dry, wet, and icy runway conditions; see Attachment 2.					
	Subjective tests are required for patchy wet, patchy icy, and wet on rubber residue in touchdown zone conditions; see Attachment 3.			X	X	
2.i.	The simulator must simulate: (1) Brake and tire failure dynamics, including anti-skid failure. (2) Decreased brake efficiency due to high brake temperatures, if applicable. An SOC is required.			X	X	Simulator pitch, side loading, and directional control characteristics should be representative of the airplane.
2.j.	The simulator must replicate the effects of airframe and engine icing. A Subjective Test is required.			X	X	
2.k.	The aerodynamic modeling in the simulator must include: (1) Low-altitude level-flight ground effect; (2) Mach effect at high altitude; (3) Normal and reverse dynamic thrust effect on control surfaces; (4) Aeroelastic representations; and (5) Nonlinearities due to sideslip. An SOC is required and must include references to computations of aeroelastic representations and of nonlinearities due to sideslip.				X	See Attachment 2, paragraph 4, for further information on ground effect.
2.l.	The simulator must have aerodynamic and ground reaction modeling for the effects of reverse thrust on directional control, if applicable. An SOC is required.		X	X	X	
3. Equipment Operation						
3.a.	All relevant instrument indications involved in the simulation of the airplane must automatically respond to control movement or external disturbances to the simulated airplane; e.g., turbulence or windshear. Numerical values must be presented in the appropriate units. A subjective test is required.	X	X	X	X	
3.b.	Communications, navigation, caution, and warning equipment must be installed and operate within the tolerances applicable for the airplane. A subjective test is required.	X	X	X	X	See Attachment 3 for further information regarding long-range navigation equipment.
3.c.	Simulated airplane systems must operate as the airplane systems operate under normal, abnormal, and emergency operating conditions on the ground and in flight. A subjective test is required.	X	X	X	X	

TABLE A1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

<<<QPS requirements>>>		Simulator levels				Information
Number	General simulator requirements	A	B	C	D	Notes
3.d.	The simulator must provide pilot controls with control forces and control travel that correspond to the simulated airplane. The simulator must also react in the same manner as in the airplane under the same flight conditions. A objective test is required.	X	X	X	X	
3.e.	Simulator control feel dynamics must replicate the airplane. This must be determined by comparing a recording of the control feel dynamics of the simulator to airplane measurements. For initial and upgrade qualification evaluations, the control dynamic characteristics must be measured and recorded directly from the flight deck controls, and must be accomplished in takeoff, cruise, and landing flight conditions and configurations. Objective tests are required.			X	X	
4. Instructor or Evaluator Facilities						
4.a.	In addition to the flight crewmember stations, the simulator must have at least two suitable seats for the instructor/check airman and FAA inspector. These seats must provide adequate vision to the pilot's panel and forward windows. All seats other than flight crew seats need not represent those found in the airplane, but must be adequately secured to the floor and equipped with similar positive restraint devices. A subjective test is required.	X	X	X	X	The NSPM will consider alternatives to this standard for additional seats based on unique flight deck configurations.
4.b.	The simulator must have controls that enable the instructor/evaluator to control all required system variables and insert all abnormal or emergency conditions into the simulated airplane systems as described in the sponsor's FAA-approved training program; or as described in the relevant operating manual as appropriate. A subjective test is required.	X	X	X	X	
4.c.	The simulator must have instructor controls for environmental conditions including wind speed and direction. A subjective test is required.	X	X	X	X	
4.d.	The simulator must provide the instructor or evaluator the ability to present ground and air hazards. A subjective test is required.			X	X	For example, another airplane crossing the active runway or converging airborne traffic.
5. Motion System						
5.a.	The simulator must have motion (force) cues perceptible to the pilot that are representative of the motion in an airplane. A subjective test is required.	X	X	X	X	For example, touchdown cues should be a function of the rate of descent (RoD) of the simulated airplane.
5.b.	The simulator must have a motion (force cueing) system with a minimum of three degrees of freedom (at least pitch, roll, and heave). An SOC is required.	X	X			
5.c.	The simulator must have a motion (force cueing) system that produces cues at least equivalent to those of a six-degrees-of-freedom, synergistic platform motion system (i.e., pitch, roll, yaw, heave, sway, and surge). An SOC is required.			X	X	
5.d.	The simulator must provide for the recording of the motion system response time. An SOC is required.	X	X	X	X	

TABLE A1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

<<<QPS requirements>>>		Simulator levels				Information
Number	General simulator requirements	A	B	C	D	Notes
5.e.	The simulator must provide motion effects programming to include: (1) Thrust effect with brakes set. (2) Runway rumble, oleo deflections, effects of ground speed, uneven runway, centerline lights, and taxiway characteristics. (3) Buffets on the ground due to spoiler/speedbrake extension and thrust reversal. (4) Bumps associated with the landing gear. (5) Buffet during extension and retraction of landing gear. (6) Buffet in the air due to flap and spoiler/speedbrake extension. (7) Approach-to-Stall buffet. (8) Representative touchdown cues for main and nose gear. (9) Nosewheel scuffing, if applicable. (10) Mach and maneuver buffet.		X	X	X	
	A subjective test is required.					
5.f.	The simulator must provide characteristic motion vibrations that result from operation of the airplane if the vibration marks an event or airplane state that can be sensed in the flight deck. An objective test is required.				X	The simulator should be programmed and instrumented in such a manner that the characteristic buffet modes can be measured and compared to airplane data.
6. Visual System						
6.a.	The simulator must have a visual system providing an out-of-the-flight deck view. A subjective test is required.	X	X	X	X	
6.b.	The simulator must provide a continuous collimated field of view of at least 45° horizontally and 30° vertically per pilot seat or the number of degrees necessary to meet the visual ground segment requirement, whichever is greater. Both pilot seat visual systems must be operable simultaneously. The minimum horizontal field of view coverage must be plus and minus one-half (½) of the minimum continuous field of view requirement, centered on the zero degree azimuth line relative to the aircraft fuselage. Additional field of view capability may be added at the sponsor's discretion provided the minimum fields of view are retained. An SOC must explain the geometry of the installation. An SOC is required.	X	X			
6.c.	(Reserved)					
6.d.	The simulator must provide a continuous collimated visual field of view of at least 176° horizontally and 36° vertically or the number of degrees necessary to meet the visual ground segment requirement, whichever is greater. The minimum horizontal field of view coverage must be plus and minus one-half (½) of the minimum continuous field of view requirement, centered on the zero degree azimuth line relative to the aircraft fuselage. Additional field of view capability may be added at the sponsor's discretion provided the minimum fields of view are retained. An SOC must explain the geometry of the installation. An SOC is required.			X	X	The horizontal field of view is traditionally described as a 180° field of view. However, the field of view is technically no less than 176°.

TABLE A1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

<<<QPS requirements>>>		Simulator levels				Information
Number	General simulator requirements	A	B	C	D	Notes
6.e.	The visual system must be free from optical discontinuities and artifacts that create non-realistic cues. A subjective test is required.	X	X	X	X	Non-realistic cues might include image ''swimming'' and image ''roll-off,'' that may lead a pilot to make incorrect assessments of speed, acceleration, or situational awareness.
6.f.	The simulator must have operational landing lights for night scenes. Where used, dusk (or twilight) scenes require operational landing lights. A subjective test is required.	X	X	X	X	
6.g.	The simulator must have instructor controls for the following: (1) Visibility in statute miles (km) and runway visual range (RVR) in ft.(m). (2) Airport selection. (3) Airport lighting.					
	A subjective test is required.	X	X	X	X	
6.h.	The simulator must provide visual system compatibility with dynamic response programming. A subjective test is required.	X	X	X	X	
6.i.	The simulator must show that the segment of the ground visible from the simulator flight deck is the same as from the airplane flight deck (within established tolerances) when at the correct airspeed, in the landing configuration, at a main wheel height of 100 feet (30 meters) above the touchdown zone, and with visibility of 1,200 ft (350 m) RVR. An SOC is required. An objective test is required.	X	X	X	X	This will show the modeling accuracy of RVR, glideslope, and localizer for a given weight, configuration, and speed within the airplane's operational envelope for a normal approach and landing.
6.j.	The simulator must provide visual cues necessary to assess sink rates (provide depth perception) during takeoffs and landings, to include: (1) Surface on runways, taxiways, and ramps. (2) Terrain features. A subjective test is required.		X	X	X	
6.k.	The simulator must provide for accurate portrayal of the visual environment relating to the simulator attitude. A subjective test is required.	X	X	X	X	Visual attitude vs. simulator attitude is a comparison of pitch and roll of the horizon as displayed in the visual scene compared to the display on the attitude indicator.
6.l.	The simulator must provide for quick confirmation of visual system color, RVR, focus, and intensity. An SOC is required. A subjective test is required.			X	X	
6.m.	The simulator must be capable of producing at least 10 levels of occulting. A subjective test is required.			X	X	
6.n.	Night Visual Scenes. When used in training, testing, or checking activities, the simulator must provide night visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. Scenes must include a definable horizon and typical terrain characteristics such as fields, roads and bodies of water and surfaces illuminated by airplane landing lights. A subjective test is required.	X	X	X	X	

TABLE A1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

<<<QPS requirements>>>		Simulator levels				Information
Number	General simulator requirements	A	B	C	D	Notes
6.o.	Dusk (or Twilight) Visual Scenes. When used in training, testing, or checking activities, the simulator must provide dusk (or twilight) visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. Dusk (or twilight) scenes, as a minimum, must provide full color presentations of reduced ambient intensity, sufficient surfaces with appropriate textural cues that include self-illuminated objects such as road networks, ramp lighting and airport signage, to conduct a visual approach, landing and airport movement (taxi). Scenes must include a definable horizon and typical terrain characteristics such as fields, roads and bodies of water and surfaces illuminated by airplane landing lights. If provided, directional horizon lighting must have correct orientation and be consistent with surface shading effects. Total night or dusk (twilight) scene content must be comparable in detail to that produced by 10,000 visible textured surfaces and 15,000 visible lights with sufficient system capacity to display 16 simultaneously moving objects. An SOC is required. A subjective test is required.			X	X	
6.p.	Daylight Visual Scenes. The simulator must provide daylight visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. Any ambient lighting must not "washout" the displayed visual scene. Total daylight scene content must be comparable in detail to that produced by 10,000 visible textured surfaces and 6,000 visible lights with sufficient system capacity to display 16 simultaneously moving objects. The visual display must be free of apparent quantization and other distracting visual effects while the simulator is in motion.				X	Brightness capability may be demonstrated with a test pattern of white light using a spot photometer.
	Note: These requirements are mandatory for level D, and applicable to any level of simulator equipped with a "daylight" visual system.					
	An SOC is required.					
	A subjective test is required.					
6.q.	The simulator must provide operational visual scenes that portray physical relationships known to cause landing illusions to pilots.				X	For example: short runways, landing approaches over water, uphill or downhill runways, rising terrain on the approach path, unique topographic features.
	A subjective test is required.					
6.r.	The simulator must provide special weather representations of light, medium, and heavy precipitation near a thunderstorm on takeoff and during approach and landing. Representations need only be presented at and below an altitude of 2,000 ft. (610 m) above the airport surface and within 10 miles (16 km) of the airport.				X	
	A subjective test is required.					
6.s.	The simulator must present visual scenes of wet and snow-covered runways, including runway lighting reflections for wet conditions, partially obscured lights for snow conditions, or suitable alternative effects.				X	

TABLE A1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

<<<QPS requirements>>>		Simulator levels				Information
Number	General simulator requirements	A	B	C	D	Notes
	A subjective test is required.					
6.t.	The simulator must present realistic color and directionality of all airport lighting.				X	
	A subjective test is required.					
7. Sound System						
7.a.	The simulator must provide flight deck sounds that result from pilot actions that correspond to those that occur in the airplane.	X	X	X	X	
7.b.	Volume control, if installed, must have an indication of the sound level setting.	X	X	X	X	
7.c.	The simulator must accurately simulate the sound of precipitation, windshield wipers, and other significant airplane noises perceptible to the pilot during normal operations, and include the sound of a crash (when the simulator is landed in an unusual attitude or in excess of the structural gear limitations); normal engine and thrust reversal sounds; and the sounds of flap, gear, and spoiler extension and retraction.			X	X	
	An SOC is required.					
	A subjective test is required.					
7.d.	The simulator must provide realistic amplitude and frequency of flight deck noises and sounds. Simulator performance must be recorded, compared to amplitude and frequency of the same sounds recorded in the airplane, and be made a part of the QTG.				X	
	Objective tests are required.					

TABLE A1B.—TABLE OF TASKS VS. SIMULATOR LEVEL

<<<QPS requirements>>>						<<Information>>
Number	Subjective requirements In order to be qualified at the simulator qualification level indicated, the simulator must be able to perform at least the tasks associated with that level of qualification.	Simulator levels				Notes
		A	B	C	D	
1. Preflight Procedures						
1.a.	Preflight Inspection (flight deck only)	X	X	X	X	
1.b.	Engine Start	X	X	X	X	
1.c.	Taxiing			X	X	
1.d.	Pre-takeoff Checks	X	X	X	X	
2. Takeoff and Departure Phase						
2.a.	Normal and Crosswind Takeoff			X	X	
2.b.	Instrument Takeoff	X	X	X	X	
2.c.	Engine Failure During Takeoff	A	X	X	X	
2.d.	Rejected Takeoff	X	X	X	X	
2.e.	Departure Procedure	X	X	X	X	
3. Inflight Maneuvers						

TABLE A1B.—TABLE OF TASKS VS. SIMULATOR LEVEL—Continued

<<<QPS requirements>>>						<<Information>>
Number	Subjective requirements In order to be qualified at the simulator qualification level indicated, the simulator must be able to perform at least the tasks associated with that level of qualification.	Simulator levels				Notes
		A	B	C	D	
3.a.	Steep Turns	X	X	X	X	
3.b.	Approaches to Stalls	X	X	X	X	
3.c.	Engine Failure—Multiengine Airplane	X	X	X	X	
3.d.	Engine Failure—Single-Engine Airplane	X	X	X	X	
3.e.	Specific Flight Characteristics incorporated into the user's FAA approved flight training program.	A	A	A	A	
3.f.	Recovery From Unusual Attitudes	X	X	X	X	Within the normal flight envelope supported by applicable simulation validation data.
4. Instrument Procedures						
4.a.	Standard Terminal Arrival/Flight Management System Arrivals Procedures	X	X	X	X	
4.b.	Holding	X	X	X	X	
4.c.	Precision Instrument.					
4.c.1.	All engines operating	X	X	X	X	e.g., Autopilot, Manual (Flt. Dir. Assisted), Manual (Raw Data).
4.c.2.	One engine inoperative	X	X	X	X	e.g., Manual (Flt. Dir. Assisted), Manual (Raw Data).
4.d.	d. Non-precision Instrument Approach	X	X	X	X	e.g., NDB, VOR, VOR/DME, VOR/TAC, RNAV, LOC, LOC/BC, ADF, and SDF.
4.e.	e. Circling Approach	X	X	X	X	Specific authorization required.
4.f.	Missed Approach.					
4.f.1.	Normal	X	X	X	X	
4.f.2.	One engine Inoperative	X	X	X	X	
5. Landings and Approaches to Landings						
5.a.	Normal and Crosswind Approaches and Landings		R	X	X	
5.b.	Landing From a Precision/Non-Precision Approach		R	X	X	
5.c.	Approach and Landing with (Simulated) Engine Failure—Multiengine Airplane.		R	X	X	
5.d.	Landing From Circling Approach		R	X	X	
5.e.	Rejected Landing	X	X	X	X	
5.f.	Landing From a No Flap or a Nonstandard Flap Configuration Approach ...		R	X	X	
6. Normal and Abnormal Procedures						
6.a.	Engine (including shutdown and restart)	X	X	X	X	
6.b.	Fuel System	X	X	X	X	
6.c.	Electrical System	X	X	X	X	
6.d.	Hydraulic System	X	X	X	X	
6.e.	Environmental and Pressurization Systems	X	X	X	X	

TABLE A1B.—TABLE OF TASKS VS. SIMULATOR LEVEL—Continued

<<<QPS requirements>>>						<<Information>>
Number	Subjective requirements In order to be qualified at the simulator qualification level indicated, the simulator must be able to perform at least the tasks associated with that level of qualification.	Simulator levels				Notes
		A	B	C	D	
6.f.	Fire Detection and Extinguisher Systems	X	X	X	X	
6.g.	Navigation and Avionics Systems	X	X	X	X	
6.h.	Automatic Flight Control System, Electronic Flight Instrument System, and Related Subsystems.	X	X	X	X	
6.i.	Flight Control Systems	X	X	X	X	
6.j.	Anti-ice and Deice Systems	X	X	X	X	
6.k.	Aircraft and Personal Emergency Equipment	X	X	X	X	
7. Emergency Procedures						
7.a.	Emergency Descent (Max. Rate)	X	X	X	X	
7.b.	Inflight Fire and Smoke Removal	X	X	X	X	
7.c.	Rapid Decompression	X	X	X	X	
7.d.	Emergency Evacuation	X	X	X	X	
8. Postflight Procedures						
8.a.	After-Landing Procedures	X	X	X	X	
8.b.	Parking and Securing	X	X	X	X	

"A"—indicates that the system, task, or procedure may be examined if the appropriate aircraft system or control is simulated in the FSTD and is working properly.
"R"—indicates that the simulator may be qualified for this task for recurrent training.
"X"—indicates that the simulator must be able to perform this task for this level of qualification.

TABLE A1C.—TABLE OF SIMULATOR SYSTEM TASKS

<<<QPS requirements>>>						<<<Information>>>
Number	Subjective requirements In order to be qualified at the simulator qualification level indicated, the simulator must be able to perform at least the tasks associated with that level of qualification.	Simulator levels				Notes
		A	B	C	D	
1. Instructor Operating Station (IOS), as appropriate						
1.a.	Power switch(es)	X	X	X	X	
1.b.	Airplane conditions	X	X	X	X	e.g., GW, CG, Fuel loading and Systems.
1.c.	Airports / Runways	X	X	X	X	e.g., Selection, Surface, Presets, Lighting controls.
1.d.	Environmental controls	X	X	X	X	e.g., Clouds, Visibility, RVR, Temp, Wind, Ice, Snow, Rain, and Windshear.
1.e.	Airplane system malfunctions (Insertion/deletion)	X	X	X	X	
1.f.	Locks, Freezes, and Repositioning	X	X	X	X	
2. Sound Controls						
2.a.	On/off/adjustment	X	X	X	X	
3. Motion/Control Loading System						
3.a.	On /off/emergency stop	X	X	X	X	
4. Observer Seats/Stations						

TABLE A1C.—TABLE OF SIMULATOR SYSTEM TASKS—Continued

<<<QPS requirements>>>						<<<Information>>>
Number	Subjective requirements In order to be qualified at the simulator qualification level indicated, the simulator must be able to perform at least the tasks associated with that level of qualification.	Simulator levels				Notes
		A	B	C	D	
4.a.	Position/Adjustment/Positive restraint system	X	X	X	X	

Attachment 2 to Appendix A to Part 60—Full Flight Simulator Objective Tests

TABLE OF CONTENTS

Paragraph No.	Title
1.	Introduction.
2.	Test Requirements.
	Table A2A, Objective Tests.
3.	General.
4.	Control Dynamics.
5.	Ground Effect.
6.	Motion System.
7.	Sound System.
8.	Additional Information About Flight Simulator Qualification for New or Derivative Airplanes.
9.	Engineering Simulator—Validation Data.
10.	[Reserved].
11.	Validation Test Tolerances.
12.	Validation Data Roadmap.
13.	Acceptance Guidelines for Alternative Engines Data.
14.	Acceptance Guidelines for Alternative Avionics (Flight-Related Computers and Controllers).
15.	Transport Delay Testing.
16.	Continuing Qualification Evaluations—Validation Test Data Presentation.
17.	Alternative Data Sources, Procedures, and Instrumentation: Level A and Level B Simulators Only.

Begin Information

1. Introduction

a. For the purposes of this attachment, the flight conditions specified in the Flight Conditions Column of Table A2A, are defined as follows:

(1) Ground—on ground, independent of airplane configuration;

(2) Take-off—gear down with flaps/slats in any certified takeoff position;

(3) First segment climb—gear down with flaps/slats in any certified takeoff position (normally not above 50 ft AGL);

(4) Second segment climb—gear up with flaps/slats in any certified takeoff position (normally between 50 ft and 400 ft AGL);

(5) Clean—flaps/slats retracted and gear up;

(6) Cruise—clean configuration at cruise altitude and airspeed;

(7) Approach—gear up or down with flaps/slats at any normal approach position as recommended by the airplane manufacturer; and

(8) Landing—gear down with flaps/slats in any certified landing position.

b. The format for numbering the objective tests in Appendix A, Attachment 2, Table A2A, and the objective tests in Appendix B, Attachment 2, Table B2A, is identical. However, each test required for FFSs is not necessarily required for FTDs. Also, each test required for FTDs is not necessarily required for FFSs. Therefore, when a test number (or series of numbers) is not required, the term ''Reserved'' is used in the table at that location. Following this numbering format provides a degree of commonality between the two tables and substantially reduces the potential for confusion when referring to objective test numbers for either FFSs or FTDs.

c. The reader is encouraged to review the Airplane Flight Simulator Evaluation Handbook, Volumes I and II, published by the Royal Aeronautical Society, London, UK, and FAA Advisory Circulars (AC) 25–7, as may be amended, Flight Test Guide for Certification of Transport Category Airplanes, and (AC) 23–8, as may be amended, Flight Test Guide for Certification of Part 23 Airplanes, for references and examples regarding flight testing requirements and techniques.

d. If relevant winds are present in the objective data, the wind vector should be clearly noted as part of the data presentation, expressed in conventional terminology, and related to the runway being used for the test.

End Information

Begin QPS Requirements

2. Test Requirements

a. The ground and flight tests required for qualification are listed in Table of A2A, FFS Objective Tests. Computer generated simulator test results must be provided for each test except where an alternative test is specifically authorized by the NSPM. If a flight condition or operating condition is required for the test but does not apply to the airplane being simulated or to the qualification level sought, it may be disregarded (e.g., an engine out missed approach for a single-engine airplane or a maneuver using reverse thrust for an airplane without reverse thrust capability). Each test result is compared against the validation data described in § 60.13 and in this appendix. Although use of a driver program designed to automatically accomplish the tests is encouraged for all simulators and required for Level C and Level D simulators, it must be possible to conduct each test manually while recording all appropriate parameters. The results must be produced on an appropriate recording device acceptable to the NSPM and must include simulator number, date, time, conditions, tolerances, and appropriate dependent variables portrayed in comparison to the validation data. Time histories are required unless otherwise indicated in Table A2A. All results must be labeled using the tolerances and units given.

b. Table A2A in this attachment sets out the test results required, including the parameters, tolerances, and flight conditions for simulator validation. Tolerances are provided for the listed tests because mathematical modeling and acquisition and development of reference data are often inexact. All tolerances listed in the following tables are applied to simulator performance. When two tolerance values are given for a parameter, the less restrictive may be used unless otherwise indicated.

c. Certain tests included in this attachment must be supported with a Statement of Compliance and Capability (SOC). In Table A2A, requirements for SOCs are indicated in the ''Test Details'' column.

d. When operational or engineering judgment is used in making assessments for flight test data applications for simulator validity, such judgment must not be limited to a single parameter. For example, data that exhibit rapid variations of the measured parameters may require interpolations or a ''best fit'' data selection. All relevant parameters related to a given maneuver or flight condition must be provided to allow overall interpretation. When it is difficult or impossible to match simulator to airplane data throughout a time history, differences must be justified by providing a comparison of other related variables for the condition being assessed.

e. It is not acceptable to program the FFS so that the mathematical modeling is correct only at the validation test points. Unless otherwise noted, simulator tests must represent airplane performance and handling qualities at operating weights and centers of gravity (CG) typical of normal operation. If a test is supported by airplane data at one extreme weight or CG, another test supported by airplane data at mid-conditions or as close as possible to the other extreme must be included. Certain tests that are relevant only at one extreme CG or weight condition need not be repeated at the other extreme. Tests of handling qualities must include validation of augmentation devices.

f. When comparing the parameters listed to those of the airplane, sufficient data must also be provided to verify the correct flight condition and airplane configuration changes. For example, to show that control force is within the parameters for a static stability test, data to show the correct airspeed, power, thrust or torque, airplane configuration, altitude, and other appropriate datum identification parameters must also be given. If comparing short period dynamics, normal acceleration may be used to establish a match to the airplane, but airspeed, altitude, control input, airplane configuration, and other appropriate data must also be given. If comparing landing gear change dynamics, pitch, airspeed, and altitude may be used to establish a match to the airplane, but landing gear position must also be provided. All airspeed values must be properly annotated (e.g., indicated versus calibrated). In addition, the same variables must be used for comparison (e.g., compare inches to inches rather than inches to centimeters).

g. The QTG provided by the sponsor must clearly describe how the simulator will be set up and operated for each test. Each simulator subsystem may be tested independently, but overall integrated testing of the simulator must be accomplished to assure that the total simulator system meets the prescribed standards. A manual test procedure with explicit and detailed steps for completing each test must also be provided.

h. For previously qualified simulators, the tests and tolerances of this attachment may be used in subsequent continuing qualification evaluations for any given test if the sponsor has submitted a proposed MQTG revision to the NSPM and has received NSPM approval.

i. Simulators are evaluated and qualified with an engine model simulating the airplane data supplier's flight test engine. For qualification of alternative engine models (either variations of the flight test engines or other manufacturers' engines) additional tests with the alternative engine models may be required. This Attachment contains guidelines for alternative engines.

j. For testing Computer Controlled Airplane (CCA) simulators, or other highly augmented airplane simulators, flight test data is required for the Normal (N) and/or Non-normal (NN) control states, as indicated in this Attachment. Where test results are independent of control state, Normal or Non-normal control data may be used. All tests in Table A2A require test results in the Normal control state unless specifically noted otherwise in the Test Details section following the CCA designation. The NSPM will determine what tests are appropriate for airplane simulation data. When making this determination, the NSPM may require other levels of control state degradation for specific airplane tests. Where Non-normal control states are required, test data must be provided for one or more Non-normal control states, and must include the least augmented state. Where applicable, flight test data must record Normal and Non-normal states for:

(1) Pilot controller deflections or electronically generated inputs, including location of input; and

(2) Flight control surface positions unless test results are not affected by, or are independent of, surface positions.

k. Tests of handling qualities must include validation of augmentation devices. FFSs for highly augmented airplanes will be validated both in the unaugmented configuration (or failure state with the maximum permitted degradation in handling qualities) and the augmented configuration. Where various levels of handling qualities result from failure states, validation of the effect of the failure is necessary. Requirements for testing will be mutually agreed to between the sponsor and the NSPM on a case-by-case basis.

l. Some tests will not be required for airplanes using airplane hardware in the simulator flight deck (e.g., ''side stick controller''). These exceptions are noted in Section 2 ''Handling Qualities'' in Table A2A of this attachment. However, in these cases, the sponsor must provide a statement that the airplane hardware meets the appropriate manufacturer's specifications and the sponsor must have supporting information to that fact available for NSPM review.

m. For objective test purposes, ''Near maximum'' gross weight is a weight chosen by the sponsor or data provider that is not less than the basic operating weight (BOW) of the airplane being simulated plus 80% of the difference between the maximum certificated gross weight (either takeoff weight or landing weight, as appropriate for the test) and the BOW. ''Light'' gross weight is a weight chosen by the sponsor or data provider that is not more than 120% of the BOW of the airplane being simulated or as limited by the minimum practical operating weight of the test airplane. ''Medium'' gross weight is a weight chosen by the sponsor or data provider that is within 10 percent of the average of the numerical values of the BOW and the maximum certificated gross weight. (**Note:** BOW is the empty weight of the aircraft plus the weight of the following: normal oil quantity; lavatory servicing fluid; potable water; required crewmembers and their baggage; and emergency equipment. (References: Advisory Circular 120–27, ''Aircraft Weight and Balance;'' and FAA–H–8083–1, ''Aircraft Weight and Balance Handbook.'')

n. In those cases where the objective test results authorize a ''snapshot test'' or a ''series of snapshot tests'' results in lieu of a time-history result, the sponsor or other data provider must ensure that a steady state condition exists at the instant of time captured by the ''snapshot.'' The steady state condition must exist from 4 seconds prior to, through 1 second following, the instant of time captured by the snapshot.

End QPS Requirements

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
1. Performance									
1.a.	Taxi								
1.a.1.	Minimum Radius Turn	±3 ft (0.9 m) or 20% of airplane turn radius.	Ground	Record both Main and Nose gear turning radius. This test is to be accomplished without the use of brakes and only minimum thrust, except for airplanes requiring asymmetric thrust or braking to turn.		X	X	X	

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
1.a.2.	Rate of Turn vs. Nosewheel Steering Angle (NWA).	±10% or ±2°/sec. turn rate.	Ground	Record a minimum of two speeds, greater than minimum turning radius speed, with a spread of at least 5 knots groundspeed.		X	X	X	
1.b.	Takeoff			All commonly used takeoff flap settings are to be demonstrated at least once in the tests for minimum unstick (1.b.3.), normal takeoff (1.b.4.), critical engine failure on takeoff (1.b.5.), or crosswind takeoff (1.b.6.).					
1.b.1.	Ground Acceleration Time and Distance.	±5% time and distance or ±5% time and ±200 ft (61 m) of distance.	Takeoff	Record acceleration time and distance for a minimum of 80% of the time from brake release to V_R. Preliminary aircraft certification data may be used..	X	X	X	X	May be combined with normal takeoff (1.b.4.) or rejected takeoff (1.b.7.). Plotted data should be shown using appropriate scales for each portion of the maneuver.
1.b.2.	Minimum Control Speed—ground (V_{mcg}) using aerodynamic controls only (per applicable airworthiness standard) or alternative low speed engine inoperative test to demonstrate ground control characteristics.	±25% of maximum airplane lateral deviation or ±5 ft (1.5 m). Additionally, for those simulators of airplanes with reversible flight control systems: Rudder pedal force; ±10% or ±5 lb (2.2 daN).	Takeoff	Engine failure speed must be within ±1 knot of airplane engine failure speed. Engine thrust decay must be that resulting from the mathematical model for the engine variant applicable to the full flight simulator under test. If the modeled engine is not the same as the airplane manufacturer's flight test engine, a further test may be run with the same initial conditions using the thrust from the flight test data as the driving parameter.	X	X	X	X	If a V_{mcg} test is not available an acceptable alternative is a flight test snap engine deceleration to idle at a speed between V_1 and V_1 −10 knots, followed by control of heading using aerodynamic control only. Recovery should be achieved with the main gear on the ground. To ensure only aerodynamic control is used, nosewheel steering should be disabled (i.e., castored) or the nosewheel held slightly off the ground.
1.b.3.	Minimum Unstick Speed (V_{mu}) or equivalent test to demonstrate early rotation takeoff characteristics.	±3 kts airspeed ±1.5° pitch angle.	Takeoff	Record main landing gear strut compression or equivalent air/ground signal. Record from 10 kt before start of rotation until at least 5 seconds after the occurrence of main gear lift-off.	X	X	X	X	V_{mu} is defined as the minimum speed at which the last main landing gear leaves the ground. Main landing gear strut compression or equivalent air/ground signal should be recorded. If a V_{mu} test is not available, alternative acceptable flight tests are a constant high-attitude take-off run through main gear lift-off or an early rotation take-off.

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
1.b.4.	Normal Takeoff	±3 kts airspeed ±1.5° pitch angle ±1.5° angle of attack ±20 ft (6 m) height. Additionally, for those simulators of airplanes with reversible flight control systems: Stick/Column Force; ±10% or ±5 lb (2.2 daN).	Takeoff	Record takeoff profile from brake release to at least 200 ft (61 m) above ground level (AGL). If the airplane has more than one certificated takeoff configurations, a different configuration must be used for each weight. Data are required for a takeoff weight at near maximum takeoff weight with a mid-center of gravity and for a light takeoff weight with an aft center of gravity, as defined in Appendix F.	X	X	X	X	This test may be used for ground acceleration time and distance (1.b.1.). Plotted data should be shown using appropriate scales for each portion of the maneuver.
1.b.5.	Critical Engine Failure on Takeoff.	±3 kts airspeed ±1.5° pitch angle, ±1.5° angle of attack, ±20 ft (6 m) height, ±3° heading angle, ±2° bank angle, ±2° sideslip angle. Additionally, for those simulators of airplanes with reversible flight control systems: Stick/ Column Force; ±10% or ±5 lb (2.2 daN)); Wheel Force; ±10% or ±3 lb (1.3 daN); and Rudder Pedal Force; ±10% or ±5 lb (2.2 daN).	Takeoff	Record takeoff profile at near maximum takeoff weight from prior to engine failure to at least 200 ft (61 m) AGL. Engine failure speed must be within ±3 kts of airplane data.	X	X	X	X	
1.b.6.	Crosswind Takeoff	±3 kts airspeed, ±1.5° pitch angle, ±1.5° angle of attack, ±20 ft (6 m) height, ±2° bank angle, ±2°sideslip angle; ±3° heading angle. Correct trend at groundspeeds below 40 kts. for rudder/ pedal and heading. Additionally, for those simulators of airplanes with reversible flight control systems: Stick/Column Force; ±10% or ±5 lb (2.2 daN) stick/ column force, ±10% or ±3 lb (1.3daN) wheel force, ±10% or ±5 lb (2.2 daN) rudder pedal force.	Takeoff	Record takeoff profile from brake release to at least 200 ft (61 m) AGL. Requires test data, including information on wind profile for a crosswind component of at least 60% of the maximum wind measured at 33 ft (10 m) above the runway.	X	X	X	X	In those situations where a maximum crosswind or a maximum demonstrated crosswind is not known, contact the NSPM.

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
1.b.7.	Rejected Takeoff	±5% time or ±1.5 sec ±7.5% distance or ±250 ft (±76 m).	Takeoff	Record time and distance from brake release to full stop. Speed for initiation of the reject must be at least 80% of V_1 speed. The airplane must be at or near the maximum takeoff gross weight. Use maximum braking effort, auto or manual.	X	X	X	X	Autobrakes will be used where applicable.
1.b.8.	Dynamic Engine Failure After Takeoff.	±20% or ±2°/sec body angular rates.	Takeoff	Engine failure speed must be within ±3 Kts of airplane data. Record Hands Off from 5 secs. before to at least 5 secs. after engine failure or 30° Bank, whichever occurs first. Engine failure may be a snap deceleration to idle. (**CCA:** Test in Normal and Non-normal control state.)			X	X	For safety considerations, airplane flight test may be performed out of ground effect at a safe altitude, but with correct airplane configuration and airspeed.
1.c.	Climb								
1.c.1.	Normal Climb, all engines operating.	±3 kts airspeed, ±5% or ±100 FPM (0.5 m/Sec.) climb rate.	Clean	Flight test data is preferred, however, airplane performance manual data is an acceptable alternative. Record at nominal climb speed and mid-initial climb altitude. Flight simulator performance must be recorded over an interval of at least 1,000 ft. (300 m).	X	X	X	X	
1.c.2.	One engine Inoperative	±3 kts airspeed, ±5% or ±100 FPM (0.5 m/Sec.) climb rate, but not less than the climb gradient requirements of 14 CFR part 23 or part 25, as appropriate.	For part 23 airplanes, in accordance with part 23. For part 25 airplanes, Second Segment Climb.	Flight test data is preferred, however, airplane performance manual data is an acceptable alternative. Test at weight, altitude, or temperature limiting conditions. Record at nominal climb speed. Flight simulator performance must be recorded over an interval of at least 1,000 ft. (300 m).	X	X	X	X	
1.c.3.	One Engine Inoperative En route Climb.	±10% time, ±10% distance, ±10% fuel used.	Clean	Record results for at least a 5,000 ft (1550 m) climb segment. Flight test data or airplane performance manual data may be used.			X	X	

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
1.c.4.	One Engine Inoperative Approach Climb (if operations in icing conditions are authorized).	±3 kts airspeed, ±5% or ±100 FPM (0.5 m/Sec.) climb rate, but not less than the climb gradient requirements of 14 CFR parts 23 or 25 climb gradient, as appropriate.	Approach	Record results at near maximum gross landing weight as defined in Appendix F. Flight test data or airplane performance manual data may be used. Flight simulator performance must be recorded over an interval of at least 1,000 ft. (300 m).	X	X	X	X	The airplane should be configured with all anti-ice and de-ice systems operating normally, with the gear up and go-around flaps set. All icing accountability considerations should be applied in accordance with the aircraft certification or authorization for an approach in icing conditions.
1.d.	Cruise/Descent								
1.d.1.	Level flight acceleration.	±5% Time	Cruise	Record results for a minimum of 50 kts speed increase using maximum continuous thrust rating or equivalent.	X	X	X	X	
1.d.2.	Level flight deceleration.	±5% Time	Cruise	Record results for a minimum of 50 kts. speed decrease using idle power.	X	X	X	X	
1.d.3.	Cruise performance	±0.05 EPR or ±5% of N_1, or ±5% of Torque, ±5% of fuel flow.	Cruise	May be a single snapshot showing instantaneous fuel flow or a minimum of 2 consecutive snapshots with a spread of at least 3 minutes in steady flight.			X	X	
1.d.4.	Idle descent	±3 kt airspeed, ±5% or ±200 ft/min (1.0m/sec) descent rate.	Clean	Record a stabilized, idle power descent at normal descent speed at mid-altitude. Flight simulator performance must be recorded over an interval of at least 1,000 ft. (300 m).	X	X	X	X	
1.d.5.	Emergency descent	±5 kt airspeed, ±5% or ±300 ft/min (1.5m/s) descent rate.	N/A	Performance must be recorded over an interval of at least 3,000 ft (900 m).	X	X	X	X	The stabilized descent should be conducted with speed brakes extended, if applicable, at mid-altitude and near V_{mo} speed or in accordance with emergency descent procedures.
1.e.	Stopping								

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
1.e.1.	Stopping time and distance, using manual application of wheel brakes and no reverse thrust on a dry runway.	±5% of time. For distance up to 4000 ft (1220 m): ±200 ft (61 m) or ±10%, whichever is smaller. For distance greater than 4000 ft (1220 m): ±5% of distance.	Landing	Record time and distance for at least 80% of the total time from touch down to full stop. Data is required for weights at medium and near maximum landing weights. Data for brake system pressure and position of ground spoilers (including method of deployment, if used) must be provided. Engineering data may be used for the medium gross weight condition.	X	X	X	X	
1.e.2.	Stopping time and distance, using reverse thrust and no wheel brakes on a dry runway.	±5% time and the smaller of ±10% or ±200 ft (61 m) of distance.	Landing	Record time and distance for at least 80% of the total time from initiation of reverse thrust to the minimum operating speed with full reverse thrust. Data is required for medium and near maximum landing gross weights. Data on the position of ground spoilers, (including method of deployment, if used) must be provided. Engineering data may be used for the medium gross weight condition.	X	X	X	X	
1.e.3.	Stopping distance, using wheel brakes and no reverse thrust on a wet runway.	±10% of distance or ±200 ft (61 m).	Landing	Either flight test data or manufacturer's performance manual data must be used where available. Engineering data based on dry runway flight test stopping distance modified by the effects of contaminated runway braking coefficients are an acceptable alternative.			X	X	
1.e.4.	Stopping distance, using wheel brakes and no reverse thrust on an icy runway.	±10% of distance or ±200 ft (61 m).	Landing	Either flight test or manufacturer's performance manual data must be used, where available. Engineering data based on dry runway flight test stopping distance modified by the effects of contaminated runway braking coefficients are an acceptable alternative.			X	X	
1.f.	Engines								

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
1.f.1.	Acceleration	±10% T_t and ±10% T_i, or ±0.25 sec.	Approach or landing	Record engine power (N_1, N_2, EPR, Torque) from flight idle to go-around power for a rapid (slam) throttle movement.	X	X	X	X	T_i, is the total time from initial throttle movement until reaching a 10% response of engine power. T_t is the total time from initial throttle movement to reaching 90% of go around power.
1.f.2.	Deceleration	±10% T_t and ±10% T_i, or ±0.25 sec.	Ground	Record engine power (N_1, N_2, EPR, Torque) from Max T/O power to 90% decay of Max T/O power for a rapid (slam) throttle movement.	X	X	X	X	T_i, is the total time from initial throttle movement until reaching a 10% response of engine power. T_t is the total time from initial throttle movement to reaching 90% decay of maximum takeoff power.
2. Handling Qualities									
	For simulators requiring Static or Dynamic tests at the controls (i.e., column, wheel, rudder pedal), special test fixtures will not be required during initial or upgrade evaluations if the sponsor's QTG/MQTG shows both test fixture results *and* the results of an alternative approach, such as computer plots produced concurrently, that provide satisfactory agreement. Repeat of the alternative method during the initial or upgrade evaluation would then satisfy this test requirement. For initial and upgrade evaluations, the control dynamic characteristics must be measured at and recorded directly from the flight deck controls, and must be accomplished in takeoff, cruise, and landing flight conditions and configurations. Testing of position versus force is not applicable if forces are generated solely by use of airplane hardware in the full flight simulator								Contact the NSPM for clarification of any issue regarding airplanes with reversible controls.
2.a.	Static Control Tests								
2.a.1.a.	Pitch Controller Position vs. Force and Surface Position Calibration.	±2 lb (0.9 daN) breakout, ±10% or ±5 lb (2.2 daN) force, ±2° elevator.	Ground	Record results for an uninterrupted control sweep to the stops.	X	X	X	X	Test results should be validated (where possible) with in-flight data from tests such as longitudinal static stability or stalls. Static and dynamic flight control tests should be accomplished at the same feel or impact pressures.
2.a.1.b.	(Reserved)								
2.a.2.a.	Roll Controller Position vs. Force and Surface Position Calibration.	±2 lb (0.9 daN) breakout, ±10% or ±3 lb (1.3 daN) force, ±2° aileron, ±3° spoiler angle.	Ground	Record results for an uninterrupted control sweep to the stops.	X	X	X	X	Test results should be validated with in-flight data from tests such as engine out trims, steady state or sideslips. Static and dynamic flight control tests should be accomplished at the same feel or impact pressures.
2.a.2.b.	(Reserved)								
2.a.3.a.	Rudder Pedal Position vs. Force and Surface Position Calibration.	±5 lb (2.2 daN) breakout, ±10% or ±5 lb (2.2 daN) force, ±2° rudder angle.	Ground	Record results for an uninterrupted control sweep to the stops.	X	X	X	X	Test results should be validated with in-flight data from tests such as engine out trims, steady state or sideslips. Static and dynamic flight control tests should be accomplished at the same feel or impact pressures.

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
2.a.3.b.	(Reserved)								
2.a.4.	Nosewheel Steering Controller Force and Position Calibration.	±2 lb (0.9 daN) breakout, ±10% or ±3 lb (1.3 daN) force, ±2° nosewheel angle.	Ground	Record results of an uninterrupted control sweep to the stops.	X	X	X	X	
2.a.5.	Rudder Pedal Steering Calibration.	±2° nosewheel angle	Ground	Record results of an uninterrupted control sweep to the stops.	X	X	X	X	
2.a.6.	Pitch Trim Indicator vs. Surface Position Calibration.	±0.5° of computed trim surface angle.	Ground		X	X	X	X	The purpose of the test is to compare full flight simulator against design data or equivalent.
2.a.7.	Pitch Trim Rate	±10% trim rate (°/sec)	Ground and approach	The trim rate must be checked using the pilot primary trim (ground) and using the autopilot or pilot primary trim in flight at go-around flight conditions.	X	X	X	X	
2.a.8.	Alignment of Flight Deck Throttle Lever vs. Selected Engine Parameter.	±5° of throttle lever angle, or ±3% N1, or ±.03 EPR, or ±3% maximum rated manifold pressure, or ±3% torque. For propeller-driven airplanes where the propeller control levers do not have angular travel, a tolerance of ±0.8 inch (±2 cm) applies.	Ground	Requires simultaneous recording for all engines. The tolerances apply against airplane data and between engines. In the case of propeller powered airplanes, if a propeller lever is present, it must also be checked. For airplanes with throttle "detents," all detents must be presented. May be a series of snapshot test results.	X	X	X	X	
2.a.9.	Brake Pedal Position vs. Force and Brake System Pressure Calibration.	±5 lb (2.2 daN) or 10% force, ±150 psi (1.0 MPa) or ±10% brake system pressure.	Ground	Hydraulic system pressure must be related to pedal position through a ground static test.	X	X	X	X	Full flight simulator computer output results may be used to show compliance.
2.b.	Dynamic Control Tests								
	Tests 2.b.1., 2.b.2., and 2.b.3. are not applicable if dynamic response is generated solely by use of airplane hardware in the full flight simulator. Power setting is that required for level flight unless otherwise specified.								

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
2.b.1.	Pitch Control	For underdamped systems: ±10% of time from 90% of initial displacement (0.9 A_d) to first zero crossing and ±10 (n+1)% of period thereafter. ±10% amplitude of first overshoot applied to all overshoots greater than 5% of initial displacement (.05 A_d). ±1 overshoot (first significant overshoot must be matched). For overdamped systems: ±10% of time from 90% of initial displacement (0.9 A_d) to 10% of initial displacement (0.1 A_d). For the alternate method see paragraph 4 of this attachment. The slow sweep is the equivalent to the static test 2.a.1. For the moderate and rapid sweeps: ±2 lb (0.9 daN) or ±10% dynamic increment above the static force.	Takeoff, Cruise, and Landing.	Data must show normal control displacement in both directions. Tolerances apply against the absolute values of each period (considered independently). Normal control displacement for this test is 25% to 50% of full throw or 25% to 50% of the maximum allowable pitch controller deflection for flight conditions limited by the maneuvering load envelope.			X	X	"n" is the sequential period of a full cycle of oscillation. Refer to paragraph 4 of this attachment for more information. Static and dynamic flight control tests should be accomplished at the same feel or impact pressures.
2.b.2.	Roll Control	For underdamped systems: ±10% of time from 90% of initial displacement (0.9 A_d) to first zero crossing, and ±10 (n+1)% of period thereafter. ±10% amplitude of first overshoot, applied to all overshoots greater than 5% of initial displacement (.05 A_d), ±1 overshoot (first significant overshoot must be matched). For overdamped systems: ±10% of time from 90% of initial displacement (0.9 A_d) to 10% of initial displacement (0.1A_d). For the alternate method see paragraph 4 of this attachment. The slow sweep is the equivalent to the static test 2.a.2. For the moderate and rapid sweeps: ±2 lb (0.9 daN) or ±10% dynamic increment above the static force.	Takeoff, Cruise, and Landing.	Data must show normal control displacement in both directions. Tolerances apply against the absolute values of each period (considered independently). Normal control displacement for this test is 25% to 50% of full throw or 25% to 50% of maximum allowable roll controller deflection for flight conditions limited by the maneuvering load envelope.			X	X	"n" is the sequential period of a full cycle of oscillation. Refer to paragraph 4 of this attachment for more information. Static and dynamic flight control tests should be accomplished at the same feel or impact pressures.

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
2.b.3.	Yaw Control	For underdamped systems: ±10% of time from 90% of initial displacement (0.9 A_d) to first zero crossing, and ±10 (n+1)% of period thereafter. ±10% amplitude of first overshoot applied to all overshoots greater than 5% of initial displacement (.05 A_d). ±1 overshoot (first significant overshoot must be matched). For overdamped systems: ±10% of time from 90% of initial displacement (0.9 A_d) to 10% of initial displacement (0.1A_d). For the alternate method (see paragraph 4 of this attachment). The slow sweep is the equivalent to the static test 2.a.3. For the moderate and rapid sweeps: ±2 lb (0.9 daN) or ±10% dynamic increment above the static force.	Takeoff, Cruise, and Landing.	Data must show normal control displacement in both directions. Tolerances apply against the absolute values of each period (considered independently). Normal control displacement for this test is 25% to 50% of full throw.			X	X	"n" is the sequential period of a full cycle of oscillation. Refer to paragraph 4 of this attachment for more information. Static and dynamic flight control tests should be accomplished at the same feel or impact pressures.
2.b.4.	Small Control Inputs—Pitch.	±0.15°/sec body pitch rate or ±20% of peak body pitch rate applied throughout the time history.	Approach or Landing ..	Control inputs must be typical of minor corrections made while established on an ILS approach course, using from 0.5°/sec to 2°/sec pitch rate. The test must be in both directions, showing time history data from 5 seconds before until at least 5 seconds after initiation of control input. **CCA:** Test in normal and non-normal control states.			X	X	

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
2.b.5.	Small Control Inputs—Roll.	±0.15°/sec body roll rate or ±20% of peak body roll rate applied throughout the time history.	Approach or landing	Control inputs must be typical of minor corrections made while established on an ILS approach course, using from 0.5°/sec to 2°/sec roll rate. The test may be run in only one direction; however, for airplanes that exhibit non-symmetrical behavior, the test must include both directions. Time history data must be recorded from 5 seconds before until at least 5 seconds after initiation of control input. **CCA:** Test in normal and non-normal control states.			X	X	
2.b.6.	Small Control Inputs—Yaw.	±0.15°/sec body yaw rate or ±20% of peak body yaw rate applied throughout the time history.	Approach or landing	Control inputs must be typical of minor corrections made while established on an ILS approach course, using from 0.5°/sec to 2°/sec yaw rate. The test may be run in only one direction; however, for airplanes that exhibit non-symmetrical behavior, the test must include both directions. Time history data must be recorded from 5 seconds before until at least 5 seconds after initiation of control input. **CCA:** Test in normal and non-normal control states.			X	X	
2.c.	Longitudinal Control Tests								
	Power setting is that required for level flight unless otherwise specified.								
2.c.1.	Power Change Dynamics.	±3 kt airspeed, ±100 ft (30 m) altitude, ±20% or ±1.5° pitch angle.	Approach	Power is changed from the thrust setting required for approach or level flight to maximum continuous thrust or go-around power setting. Record the uncontrolled free response from at least 5 seconds before the power change is initiated to 15 seconds after the power change is completed. **CCA:** Test in Normal and Non-normal control states.	X	X	X	X	

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
2.c.2.	Flap/Slat Change Dynamics.	±3 kt airspeed, ±100 ft (30 m) altitude, ±20% or ±1.5° pitch angle.	Takeoff through initial flap retraction, and approach to landing.	Record the uncontrolled free response from at least 5 seconds before the configuration change is initiated to 15 seconds after the configuration change is completed. **CCA:** Test in normal and non-normal control states.	X	X	X	X	
2.c.3.	Spoiler/Speedbrake Change Dynamics.	±3 kt airspeed, ±100 ft (30 m) altitude, ±20% or ±1.5° pitch angle.	Cruise	Record the uncontrolled free response from at least 5 seconds before the configuration change is initiated to 15 seconds after the configuration change is completed. Record results for both extension and retraction. **CCA:** Test in normal and non-normal control states.	X	X	X	X	
2.c.4.	Gear Change Dynamics.	±3 kt airspeed, ±100 ft (30 m) altitude, ±20% or ±1.5° pitch angle.	Takeoff (retraction), and Approach (extension).	Record the time history of uncontrolled free response for a time increment from at least 5 seconds before the configuration change is initiated to 15 seconds after the configuration change is completed. **CCA:** Test in normal and non-normal control states.	X	X	X	X	
2.c.5.	Longitudinal Trim	±0.5° trim surface angle ±1° elevator ±1° pitch angle ±5% net thrust or equivalent.	Cruise, Approach, and Landing.	Record steady-state condition with wings level and thrust set for level flight. May be a series of snapshot tests. **CCA:** Test in normal and non-normal control states.	X	X	X	X	

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
2.c.6.	Longitudinal Maneuvering Stability (Stick Force/g).	±5 lb (±2.2 daN) or ±10% pitch controller force. Alternative method: ±1° or ±10% change of elevator.	Cruise, Approach, and Landing.	Continuous time history data or a series of snapshot tests may be used. Record results up to 30° of bank for approach and landing configurations. Record results for up to 45° of bank for the cruise configuration. The force tolerance is not applicable if forces are generated solely by the use of airplane hardware in the full flight simulator. The alternative method applies to airplanes that do not exhibit "stick-force-per-g" characteristics. **CCA:** Test in Normal and Non-normal control states.	X	X	X	X	
2.c.7.	Longitudinal Static Stability.	±5 lb (±2.2 daN) or ±10% pitch controller force. Alternative method: ±1° or ±10% change of elevator.	Approach	Record results for at least 2 speeds above and 2 speeds below trim speed. May be a series of snapshot test results. The force tolerance is not applicable if forces are generated solely by the use of airplane hardware in the full flight simulator. The alternative method applies to airplanes that do not exhibit speed stability characteristics. **CCA:** Test in Normal or Non-normal control states.	X	X	X	X	
2.c.8.	Stall Characteristics	±3 kt airspeed for initial buffet, stall warning, and stall speeds. ±2° bank for speeds greater than stick shaker or initial buffet. Additionally, for those simulators with reversible flight control systems: ±10% or ±5 lb (2.2 daN)) Stick/Column force (prior to "g break" only).	Second Segment Climb, and Approach or Landing.	The stall maneuver must be entered with thrust at or near idle power and wings level (1g). Record the stall warning signal and initial buffet, if applicable. Time history data must be recorded for full stall and initiation of recovery. The stall warning signal must occur in the proper relation to buffet/stall. Full flight simulators of airplanes exhibiting a sudden pitch attitude change or "g break" must demonstrate this characteristic. **CCA:** Test in Normal and Non-normal control states.	X	X	X	X	

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
2.c.9.	Phugoid Dynamics	±10% period, ±10% of time to ½ or double amplitude or ±.02 of damping ratio.	Cruise	The test must include whichever is less of the following: Three full cycles (six overshoots after the input is completed), or the number of cycles sufficient to determine time to ½ or double amplitude. **CCA:** Test in Non-normal control states.	X	X	X	X	
2.c.10.	Short Period Dynamics	±1.5° pitch angle or ±2°/sec pitch rate, ±0.10g acceleration.	Cruise	**CCA:** Test in Normal and Non-normal control states.		X	X	X	
2.c.11.	(Reserved)								
2.d.	Lateral Directional Tests								
	Power setting is that required for level flight unless otherwise specified.								
2.d.1.	Minimum Control Speed, Air (V_{mca} or V_{mcl}), per Applicable Airworthiness Standard or Low Speed Engine Inoperative Handling Characteristics in the Air.	±3 kt airspeed	Takeoff or Landing (whichever is most critical in the airplane).	Takeoff thrust must be used on the operating engine(s). A time history or a series of snapshot tests may be used. **CCA:** Test in Normal and Non-normal control states.	X	X	X	X	Low Speed Engine Inoperative Handling may be governed by a performance or control limit that prevents demonstration of V_{mca} in the conventional manner.
2.d.2.	Roll Response (Rate)	±10% or ±2°/sec roll rate. Additionally, for those simulators of airplanes with reversible flight control systems: ±10% or ±3lb (1.3 daN) wheel force.	Cruise, and Approach or Landing.	Record results for normal roll controller deflection (about one-third of maximum roll controller travel). May be combined with step input of flight deck roll controller test (2.d.3.).	X	X	X	X	
2.d.3.	Roll Response to Flight deck Roll Controller Step Input.	±10% or ±2° bank angle.	Approach or Landing	Record from initiation of roll through 10 seconds after control is returned to neutral and released. May be combined with roll response (rate) test (2.d.2). **CCA:** Test in Normal and Non-normal control states.	X	X	X	X	With wings level, apply a step roll control input using approximately one-third of the roll controller travel. When reaching approximately 20° to 30° of bank, abruptly return the roll controller to neutral and allow approximately 10 seconds of airplane free response.
2.d.4.	Spiral Stability	Correct trend and ±2° or ±10% bank angle in 20 seconds. Alternate test requires correct trend and ±2° aileron.	Cruise, and Approach or Landing.	Record results for both directions. Airplane data averaged from multiple tests may be used. As an alternate test, demonstrate the lateral control required to maintain a steady turn with a bank angle of 28° to 32°. **CCA:** Test in Normal and Non-normal control states.	X	X	X	X	

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
2.d.5.	Engine Inoperative Trim.	±1° rudder angle or ±1° tab angle or equivalent pedal, ±2° sideslip angle.	Second Segment Climb, and Approach or Landing.	May be a series of snapshot tests.	X	X	X	X	The test should be performed in a manner similar to that for which a pilot is trained to trim an engine failure condition. Second segment climb test should be at takeoff thrust. Approach or landing test should be at thrust for level flight.
2.d.6.	Rudder Response	±2°/sec or ±10% yaw rate..	Approach or Landing	Record results for stability augmentation system ON and OFF. A rudder step input of 20%–30% rudder pedal throw is used. **CCA:** Test in Normal and Non-normal control states.	X	X	X	X	
2.d.7.	Dutch Roll, (Yaw Damper OFF).	±0.5 sec or ±10% of period, ±10% of time to ½ or double amplitude or ±.02 of damping ratio. ±20% or ±1 sec of time difference between peaks of bank and sideslip.	Cruise, and Approach or Landing.	Record results for at least 6 complete cycles with stability augmentation OFF. **CCA:** Test in Non-normal control states.	X	X	X	X	
2.d.8.	Steady State Sideslip	For given rudder position ±2° bank angle, ±1° sideslip angle, ±10% or ±2° aileron, ±10% or ±5° spoiler or equivalent roll, controller position or force. Additionally, for those simulators of airplanes with reversible flight control systems: ±10% or ±3 lb (1.3 daN) wheel force ±10% or ±5 lb (2.2 daN) rudder pedal force.	Approach or Landing	May be a series of snapshot test results using at least two rudder positions. Propeller driven airplanes must test in each direction.	X	X	X	X	
2.e.	Landings								
2.e.1.	Normal Landing	±3 kt airspeed, ±1.5° pitch angle, ±1.5° angle of attack, ±10% or ±10 ft (3 m) height. Additionally, for those simulators of airplanes with reversible flight control systems: ±10% or ±5 lbs (±2.2 daN) stick/column force	Landing	Record results from a minimum of 200 ft (61 m) AGL to nosewheel touchdown. **CCA:** Test in Normal and Non-normal control states.		X	X	X	Tests should be conducted with two normal landing flap settings (if applicable). One should be at or near maximum certificated landing weight. The other should be at light or medium landing weight.

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
2.e.2.	Minimum Flap Landing	±3 kt airspeed, ±1.5° pitch angle, ±1.5° angle of attack, ±10% or ±10 ft (3 m) height. Additionally, for those simulators of airplanes with reversible flight control systems: ±10% or ±5 lbs (2.2 daN) stick/column force.	Minimum Certified Landing Flap Configuration.	Record results from a minimum of 200 ft (61 m) AGL to nosewheel touchdown with airplane at or near Maximum Landing Weight.			X	X	
2.e.3.	Crosswind Landing	±3 kt airspeed, ±1.5° pitch angle, ±1.5° angle of attack, ±10% or ±10 ft (3 m) height ±2° bank angle, ±2° sideslip angle ±3° heading angle. Additionally, for those simulators of airplanes with reversible flight control systems: ±10% or ±3 lb (1.3 daN) wheel force ±10% or ±5 lb (2.2 daN) rudder pedal force.	Landing	Record results from a minimum of 200 ft (61 m) AGL, through nosewheel touchdown, to 50% decrease in main landing gear touchdown speed. Test data must include information on wind profile, for a crosswind component of 60% of the maximum wind measured at 33 ft (10 m) above the runway.		X	X	X	In those situations where a maximum crosswind or a maximum demonstrated crosswind is not known, contact the NSPM.
2.e.4.	One Engine Inoperative Landing.	±3 kt airspeed, ±1.5° pitch angle, ±1.5° angle of attack, ±10% height or ±10 ft (3 m); ±2° bank angle, ±2° sideslip angle, ±3° heading.	Landing	Record results from a minimum of 200 ft (61 m) AGL, through nosewheel touchdown, to 50% decrease in main landing gear touchdown speed or less.		X	X	X	
2.e.5.	Autopilot landing (if applicable).	±5 ft (1.5 m) flare height, ±0.5 sec T_f, or ±10%T_f, ±140 ft/min (0.7 m/sec) rate of descent at touchdown. ±10 ft (3 m) lateral deviation during rollout.	Landing	If autopilot provides rollout guidance, record lateral deviation from touchdown to a 50% decrease in main landing gear touchdown speed or less. Time of autopilot flare mode engage and main gear touchdown must be noted.		X	X	X	T_f = duration of flare.
2.e.6.	All engines operating, autopilot, go around.	±3 kt airspeed, ±1.5° pitch angle, ±1.5° angle of attack.		Normal, all-engines-operating, Go Around with the autopilot engaged (if applicable) at medium landing weight. **CCA:** Test in Normal and Non-normal control states.		X	X	X	

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
2.e.7.	One engine inoperative go around.	±3 kt airspeed, ±1.5° pitch angle, ±1.5° angle of attack, ±2° bank angle, ±2° slideslip angle.		The one engine inoperative go around is required at near maximum certificated landing weight with the critical engine inoperative using manual controls. If applicable, an additional engine inoperative go around test must be accomplished with the autopilot engaged. **CCA:** Test in Normal and Non-normal control states.		X	X	X	
2.e.8.	Directional control (rudder effectiveness) with symmetric reverse thrust.	±2°/sec yaw rate ±5 kts airspeed.	Landing	Record results starting from a speed approximating touchdown speed to the minimum thrust reverser operation speed. With full reverse thrust, apply yaw control in both directions until reaching minimum thrust reverser operation speed.		X	X	X	
2.e.9.	Directional control (rudder effectiveness) with asymmetric reverse thrust.	±5 kt airspeed, ±3° heading angle.	Landing	Maintain heading with yaw control with full reverse thrust on the operating engine(s). Record results starting from a speed approximating touchdown speed to a speed at which control of yaw cannot be maintained or until reaching minimum thrust reverser operation speed, whichever is higher. The tolerance applies to the low speed end of the data recording.		X	X	X	
2.f.	Ground Effect								
	Test to demonstrate Ground Effect.	±1° elevator ±0.5°stabilizer angle, ±5% net thrust or equivalent, ±1° angle of attack, ±10% height or ±5 ft (1.5 m), ±3 kt airspeed, ±1° pitch angle.	Landing	The Ground Effect model must be validated by the test selected and a rationale must be provided for selecting the particular test.		X	X	X	See paragraph on Ground Effect in this attachment for additional information.
2.g.	Windshear								
	Four tests, two takeoff and two landing, with one of each conducted in still air and the other with windshear active to demonstrate windshear models.	See Attachment 5	Takeoff and Landing	Requires windshear models that provide training in the specific skills needed to recognize windshear phenomena and to execute recovery procedures. See Attachment 5 for tests, tolerances, and procedures.			X	X	See Attachment 5 for information related to Level A and B simulators.
2.h.	Flight Maneuver and Envelope Protection Functions								

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
	The requirements of tests h(1) through (6) of this attachment are applicable to computer controlled airplanes only. Time history results are required for simulator response to control inputs during entry into envelope protection limits including both normal and degraded control states if the function is different. Set thrust as required to reach the envelope protection function.								
2.h.1.	Overspeed	±5 kt airspeed	Cruise			X	X	X	
2.h.2.	Minimum Speed	±3 kt airspeed	Takeoff, Cruise, and Approach or Landing.			X	X	X	
2.h.3.	Load Factor	±0.1g normal load factor.	Takeoff, Cruise			X	X	X	
2.h.4.	Pitch Angle	±1.5° pitch angle	Cruise, Approach			X	X	X	
2.h.5.	Bank Angle	±2° or ±10% bank angle.	Approach			X	X	X	
2.h.6.	Angle of Attack	±1.5° angle of attack	Second Segment Climb, and Approach or Landing.			X	X	X	
3. Motion System									
3.a.	Frequency response								
		Based on Simulator Capability.	N/A	The test must demonstrate frequency response of the motion system.	X	X	X	X	This test is not required as part of continuing qualification evaluations, and should be part of the MQTG.
3.b.	Leg balance								
		Based on Simulator Capability.	N/A	Required as part of MQTG but not required to be scheduled as part of continuing qualification evaluations. The test must demonstrate motion system leg balance as specified by the applicant for flight simulator qualification.	X	X	X	X	
3.c.	Turn-around check								
		Based on Simulator Capability.	N/A	Required as part of MQTG but not required to be scheduled as part of continuing qualification evaluations. The test must demonstrate a smooth turn-around (shift to opposite direction of movement) of the motion system as specified by the applicant for flight simulator qualification.	X	X	X	X	
3.d.	Motion system repeatability								

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
		With the same input signal, the test results must be repeatable to within ±0.05g actual platform linear acceleration.	Accomplished in both the "ground" mode and in the "flight" mode of the motion system operation.	A demonstration is required and must be made part of the MQTG. The assessment procedures must be designed to ensure that the motion system hardware and software (in normal flight simulator operating mode) continue to perform as originally qualified.	X	X	X	X	This test ensures that motion system hardware and software (in normal flight simulator operating mode) continue to perform as originally qualified. Performance changes from the original baseline can be readily identified with this information.
3.e.	Motion cueing performance signature.								
	Required as part of MQTG but not required as part of continuing evaluations.								These tests should be run with the motion buffet mode disabled. See paragraph 5.d., of this attachment, Motion cueing performance signature.
3.e.1.	Takeoff rotation (V_R to V_2).	As specified by the sponsor for flight simulator qualification.	Ground	Pitch attitude due to initial climb must dominate over cab tilt due to longitudinal acceleration.	X	X	X	X	Associated with test 1.b.4.
3.e.2.	Engine failure between V_1 and V_R.	As specified by the sponsor for flight simulator qualification.	Ground		X	X	X	X	Associated with test 1.b.5.
3.e.3.	Pitch change during go-around.	As specified by the sponsor for flight simulator qualification.	Flight			X	X	X	Associated with test 2.e.6.
3.e.4.	Configuration changes	As specified by the sponsor for flight simulator qualification.	Flight		X	X	X	X	Associated with tests 2.c.2. and 2.c.4.
3.e.5.	Power change dynamics.	As specified by the sponsor for flight simulator qualification.	Flight		X	X	X	X	Associated with test 2.c.1.
3.e.6.	Landing flare	As specified by the sponsor for flight simulator qualification.	Flight			X	X	X	Associated with test 2.e.1.
3.e.7.	Touchdown bump	As specified by the sponsor for flight simulator qualification.	Ground				X	X	Associated with test 2.e.1.
3.f.	Characteristic motion vibrations								
	The recorded test results for characteristic buffets must allow the comparison of relative amplitude versus frequency.								
3.f.1.	Thrust effect with brakes set.	Simulator test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency "spikes" being present within ±2 Hz.	Ground	The test must be conducted within 5% of the maximum possible thrust with brakes set.				X	

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
3.f.2.	Buffet with landing gear extended.	Simulator test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency ''spikes'' being present within ±2 Hz.	Flight	The test must be conducted at a nominal, mid-range airspeed; i.e., sufficiently below landing gear limiting airspeed to avoid inadvertently exceeding this limitation.				X	
3.f.3.	Buffet with flaps extended.	Simulator test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency ''spikes'' being present within ±2 Hz.	Flight	The test must be conducted at a nominal, mid-range airspeed; i.e., sufficiently below flap extension limiting airspeed to avoid inadvertently exceeding this limitation.				X	
3.f.4.	Buffet with speedbrakes deployed.	Simulator test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency ''spikes'' being present within ±2 Hz.	Flight					X	
3.f.5.	Buffet at approach-to-stall.	Simulator test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency ''spikes'' being present within ±2 Hz.	Flight	The test must be conducted for approach to stall. Post stall characteristics are not required.				X	
3.f.6.	Buffet at high airspeeds or high Mach.	Simulator test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency ''spikes'' being present within ±2 Hz.	Flight					X	The test may be conducted during either a high speed maneuver (e.g., ''wind-up'' turn) or at high Mach.
3.f.7.	In-flight vibrations for propeller driven airplanes.	Simulator test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency ''spikes'' being present within ±2 Hz.	Flight (clean configuration).					X	
4. Visual System									
4.a.	Visual System Response Time: (Choose either test 4.a.1. or 4.a.2. to satisfy test 4.a., Visual System Response Time Test. This test also suffices for motion system response timing and flight deck instrument response timing.)								See additional information in this attachment.
4.a.1.	Latency								

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
		300 ms (or less) after airplane response.	Take-off, cruise, and approach or landing.	One test is required in each axis (pitch, roll and yaw) for each of the three conditions (take-off, cruise, and approach or landing).	X	X			The visual scene or test pattern used during the response testing should be representative of the system capacities required to meet the daylight, twilight (dusk/dawn) and/or night visual capability as appropriate.
		150 ms (or less) after airplane response.	Take-off, cruise, and approach or landing.	One test is required in each axis (pitch, roll and yaw) for each of the three conditions (take-off, cruise, and approach or landing).			X	X	
4.a.2.	Transport Delay								
		300 ms (or less) after controller movement.	N/A	A separate test is required in each axis (pitch, roll, and yaw).	X	X			If Transport Delay is the chosen method to demonstrate relative responses, the sponsor and the NSPM will use the latency values to ensure proper simulator response when reviewing those existing tests where latency can be identified (e.g., short period, roll response, rudder response).
		150 ms (or less) after controller movement.	N/A	A separate test is required in each axis (pitch, roll, and yaw).			X	X	
4.b.	Field of View								
4.b.1.	Continuous collimated visual field of view.	Continuous collimated field of view providing at least 45° horizontal and 30° vertical field of view for each pilot seat. Both pilot seat visual systems must be operable simultaneously.	N/A	Required as part of MQTG but not required as part of continuing evaluations.	X	X			A vertical field of view of 30° may be insufficient to meet visual ground segment requirements.
4.b.2.	(Reserved)								

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
4.b.3.	Continuous, collimated, field of view.	Continuous field of view of at least 176° horizontally and 36 vertically.	N/A	An SOC is required and must explain the geometry of the installation. Horizontal field of view must be at least 176° (including not less than 88° either side of the center line of the design eye point). Additional horizontal field of view capability may be added at the sponsor's discretion provided the minimum field of view is retained. Vertical field of view must be at least 36° from each pilot's eye point. Required as part of MQTG but not required as part of continuing qualification evaluations.			X	X	The horizontal field of view is traditionally described as a 180° field of view. However, the field of view is technically no less than 176°. Field of view should be measured using a visual test pattern filling the entire visual scene (all channels) with a matrix of black and white 5° squares. The installed alignment should be addressed in the SOC.
4.c.	(System geometry)								
		5° even angular spacing within ±1° as measured from either pilot eye point and within 1.5° for adjacent squares.	N/A	The angular spacing of any chosen 5° square and the relative spacing of adjacent squares must be within the stated tolerances.	X	X	X	X	The purpose of this test is to evaluate local linearity of the displayed image at either pilot eye point. System geometry should be measured using a visual test pattern filling the entire visual scene (all channels) with a matrix of black and white 5° squares with light points at the intersections.
4.d.	Surface contrast ratio								
		Not less than 5:1	N/A	The ratio is calculated by dividing the brightness level of the center, bright square (providing at least 2 foot-lamberts or 7 cd/m2) by the brightness level of any adjacent dark square. This requirement is applicable to any level of simulator equipped with a daylight visual system.			X	X	Measurements should be made using a 1° spot photometer and a raster drawn test pattern filling the entire visual scene (all channels) with a test pattern of black and white squares, 5° per square, with a white square in the center of each channel. During contrast ratio testing, simulator aft-cab and flight deck ambient light levels should be zero.
4.e.	Highlight brightness								

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
		Not less than six (6) foot-lamberts (20 cd/m^2).	N/A	Measure the brightness of a white square while superimposing a highlight on that white square. The use of calligraphic capabilities to enhance the raster brightness is acceptable; however, measuring lightpoints is not acceptable. This requirement is applicable to any level of simulator equipped with a daylight visual system.			X	X	Measurements should be made using a 1° spot photometer and a raster drawn test pattern filling the entire visual scene (all channels) with a test pattern of black and white squares, 5° per square, with a white square in the center of each channel.
4.f.	Surface resolution								
		Not greater than two (2) arc minutes.	N/A	An SOC is required and must include the relevant calculations and an explanation of those calculations. This requirement is applicable to any level of simulator equipped with a daylight visual system.			X	X	The eye will subtend two arc minutes when positioned on a 3° glide slope, 6,876 ft slant range from the centrally located threshold of a black runway surface painted with white threshold bars that are 16 ft wide with 4-foot gaps between the bars.
4.g.	Light point size								
		Not greater than five (5) arc-minutes.	N/A	An SOC is required and must include the relevant calculations and an explanation of those calculations. This requirement is applicable to any level of simulator equipped with a daylight visual system.			X	X	Light point size should be measured using a test pattern consisting of a centrally located single row of light points reduced in length until modulation is just discernible in each visual channel. A row of 48 lights will form a 4° angle or less.
4.h.	Light point contrast ratio								
4.h.1.	For Level A and B simulators.	Not less than 10:1	N/A	An SOC is required and must include the relevant calculations.	X	X			A 1° spot photometer is used to measure a square of at least 1° filled with light points (where light point modulation is just discernible) and compare the results to the measured adjacent background. During contrast ratio testing, simulator aft-cab and flight deck ambient light levels should be zero.

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
4.h.2.	For Level C and D simulators.	Not less than 25:1	N/A	An SOC is required and must include the relevant calculations.			X	X	A 1° spot photometer is used to measure a square of at least 1° filled with light points (where light point modulation is just discernible) and compare the results to the measured adjacent background. During contrast ratio testing, simulator aft-cab and flight deck ambient light levels should be zero.
4.i.	Visual ground segment								
		The visible segment in the simulator must be within 20% of the segment computed to be visible from the airplane flight deck. The tolerance(s) may be applied at either or both ends of the displayed segment. However, lights and ground objects computed to be visible from the airplane flight deck at the near end of the visible segment must be visible in the simulator.	Landing configuration, trimmed for appropriate airspeed, at 100 ft (30 m) above the touchdown zone, on glide slope with an RVR value set at 1,200 ft (350 m).	The QTG must contain appropriate calculations and a drawing showing the pertinent data used to establish the airplane location and the segment of the ground that is visible considering design eyepoint, the airplane attitude, flight deck cut-off angle, and a visibility of 1,200 ft (350 m) RVR. Simulator performance must be measured against the QTG calculations. The data submitted must include at least the following: (1) Static airplane dimensions as follows: (i) Horizontal and vertical distance from main landing gear (MLG) to glideslope reception antenna. (ii) Horizontal and vertical distance from MLG to pilot's eyepoint. (iii) Static flight deck cutoff angle.	X	X	X	X	Pre-position for this test is encouraged but may be achieved via manual or autopilot control to the desired position.
				(2) Approach data as follows: (i) Identification of runway. (ii) Horizontal distance from runway threshold to glideslope intercept with runway. (iii) Glideslope angle. (iv) Airplane pitch angle on approach. (3) Airplane data for manual testing: (i) Gross weight. (ii) Airplane configuration.					

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
				(iii) Approach airspeed. If non-homogenous fog is used to obscure visibility, the vertical variation in horizontal visibility must be described and be included in the slant range visibility calculation used in the computations.					
5. Sound System									
The sponsor will not be required to repeat the airplane tests (i.e., tests 5.a.1. through 5.a.8. (or 5.b.1. through 5.b.9.) and 5.c., as appropriate) during continuing qualification evaluations if frequency response and background noise test results are within tolerance when compared to the initial qualification evaluation results, and the sponsor shows that no software changes have occurred that will affect the airplane test results. If the frequency response test method is chosen and fails, the sponsor may elect to fix the frequency response problem and repeat the test or the sponsor may elect to repeat the airplane tests. If the airplane tests are repeated during continuing qualification evaluations, the results may be compared against initial qualification evaluation results or airplane master data.									
5.a.	Turbo-jet airplanes								
5.a.1.	Ready for engine start	±5 dB per ⅓ octave band.	Ground	Normal conditions prior to engine start with the Auxiliary Power Unit operating, if appropriate.				X	
5.a.2.	All engines at idle	±5 dB per ⅓ octave band.	Ground	Normal condition prior to takeoff.				X	
5.a.3.	All engines at maximum allowable thrust with brakes set.	±5 dB per ⅓ octave band.	Ground	Normal condition prior to takeoff.				X	
5.a.4.	Climb	±5 dB per ⅓ octave band.	En-route climb	Medium altitude				X	
5.a.5.	Cruise	±5 dB per ⅓ octave band.	Cruise	Normal cruise configuration.				X	
5.a.6.	Speedbrake/spoilers extended (as appropriate).	±5 dB per ⅓ octave band.	Cruise	Normal and constant speedbrake deflection for descent at a constant airspeed and power setting.				X	
5.a.7.	Initial approach	±5 dB per ⅓ octave band.	Approach	Constant airspeed, gear up, flaps and slats, as appropriate.				X	
5.a.8.	Final approach	±5 dB per ⅓ octave band.	Landing	Constant airspeed, gear down, full flaps.				X	
5.b.	Propeller airplanes								
5.b.1.	Ready for engine start	±5 dB per ⅓ octave band.	Ground	Normal conditions prior to engine start with the Auxiliary Power Unit operating, if appropriate.				X	
5.b.2.	All propellers feathered	±5 dB per ⅓ octave band.	Ground	Normal condition prior to takeoff.				X	
5.b.3.	Ground idle or equivalent.	±5 dB per ⅓ octave band.	Ground	Normal condition prior to takeoff.				X	
5.b.4.	Flight idle or equivalent	±5 dB per ⅓ octave band.	Ground	Normal condition prior to takeoff.				X	

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
5.b.5.	All engines at maximum allowable power with brakes set.	±5 dB per ⅓ octave band.	Ground	Normal condition prior to takeoff.				X	
5.b.6.	Climb	±5 dB per ⅓ octave band.	En-route climb	Medium altitude				X	
5.b.7.	Cruise	±5 dB per ⅓ octave band.	Cruise	Normal cruise configuration.				X	
5.b.8.	Initial approach	±5 dB per ⅓ octave band.	Approach	Constant airspeed, gear up, flaps extended as appropriate, RPM as per operating manual.				X	
5.b.9.	Final Approach	±5 dB per ⅓ octave band.	Landing	Constant airspeed, gear down, full flaps, RPM as per operating manual.				X	
5.c.	Special cases								
		±5 dB per ⅓ octave band.	As appropriate					X	These special cases are identified as particularly significant during critical phases of flight and ground operations for a specific airplane type or model.
5.d.	Background noise								
		±3 dB per ⅓ octave band.		Results of the background noise at initial qualification must be included in the MQTG. Measurements must be made with the simulation running, the sound muted and a ''dead'' flight deck.				X	The simulated sound will be evaluated to ensure that the background noise does not interfere with training, testing, or checking.
5.e.	Frequency response								

TABLE A2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>									Information notes
Test		Tolerance	Flight conditions	Test details	Simulator level				
Number	Title				A	B	C	D	
		±5 dB on three (3) consecutive bands when compared to initial evaluation; and ±2 dB when comparing the average of the absolute differences between initial and continuing qualification evaluation.	.....	Applicable only to Continuing Qualification Evaluations. If frequency response plots are provided for each channel at the initial qualification evaluation, these plots may be repeated at the continuing qualification evaluation with the following tolerances applied: (a) The continuing qualification ⅓ octave band amplitudes must not exceed ±5 dB for three consecutive bands when compared to initial results. (b) The average of the sum of the absolute differences between initial and continuing qualification results must not exceed 2 dB (refer to table A.2.B. in this attachment).				X	Measurements are compared to those taken during initial qualification evaluation.

Begin Information

3. General.

a. If relevant winds are present in the objective data, the wind vector should be clearly noted as part of the data presentation, expressed in conventional terminology, and related to the runway being used for test near the ground.

b. The reader is encouraged to review the Airplane Flight Simulator Evaluation Handbook, Volumes I and II, published by the Royal Aeronautical Society, London, UK, and FAA Advisory Circulars (AC) 25–7, as may be amended, Flight Test Guide for Certification of Transport Category Airplanes, and (AC) 23–8, as may be amended, Flight Test Guide for Certification of Part 23 Airplanes, for references and examples regarding flight testing requirements and techniques.

4. Control Dynamics

a. General. The characteristics of an airplane flight control system have a major effect on handling qualities. A significant consideration in pilot acceptability of an airplane is the ''feel'' provided through the flight controls. Considerable effort is expended on airplane feel system design so that pilots will be comfortable and will consider the airplane desirable to fly. In order for an FFS to be representative, it should ''feel'' like the airplane being simulated. Compliance with this requirement is determined by comparing a recording of the control feel dynamics of the FFS to actual airplane measurements in the takeoff, cruise and landing configurations.

(1) Recordings such as free response to an impulse or step function are classically used to estimate the dynamic properties of electromechanical systems. In any case, it is only possible to estimate the dynamic properties as a result of being able to estimate true inputs and responses. Therefore, it is imperative that the best possible data be collected since close matching of the FFS control loading system to the airplane system is essential. The required dynamic control tests are described in Table A2A of this attachment.

(2) For initial and upgrade evaluations, the QPS requires that control dynamics characteristics be measured and recorded directly from the flight controls (Handling Qualities—Table A2A). This procedure is usually accomplished by measuring the free response of the controls using a step or impulse input to excite the system. The procedure should be accomplished in the takeoff, cruise and landing flight conditions and configurations.

(3) For airplanes with irreversible control systems, measurements may be obtained on the ground if proper pitot-static inputs are provided to represent airspeeds typical of those encountered in flight. Likewise, it may be shown that for some airplanes, takeoff, cruise, and landing configurations have like effects. Thus, one may suffice for another. In either case, engineering validation or airplane manufacturer rationale should be submitted as justification for ground tests or for eliminating a configuration. For FFSs requiring static and dynamic tests at the controls, special test fixtures will not be required during initial and upgrade evaluations if the QTG shows both test fixture results and the results of an alternate approach (e.g., computer plots that were produced concurrently and show satisfactory agreement). Repeat of the alternate method during the initial evaluation would satisfy this test requirement.

b. Control Dynamics Evaluation. The dynamic properties of control systems are often stated in terms of frequency, damping and a number of other classical measurements. In order to establish a consistent means of validating test results for FFS control loading, criteria are needed that will clearly define the measurement interpretation and the applied tolerances. Criteria are needed for underdamped, critically damped and overdamped systems. In the case of an underdamped system with very light damping, the system may be quantified in terms of frequency and damping. In critically damped or overdamped systems, the frequency and damping are not readily measured from a response time history. Therefore, the following suggested measurements may be used:

(1) For Level C and D simulators. Tests to verify that control feel dynamics represent the airplane should show that the dynamic damping cycles (free response of the controls) match those of the airplane within

specified tolerances. The NSPM recognizes that several different testing methods may be used to verify the control feel dynamic response. The NSPM will consider the merits of testing methods based on reliability and consistency. One acceptable method of evaluating the response and the tolerance to be applied is described below for the underdamped and critically damped cases. A sponsor using this method to comply with the QPS requirements should perform the tests as follows:

(a) Underdamped response. Two measurements are required for the period, the time to first zero crossing (in case a rate limit is present) and the subsequent frequency of oscillation. It is necessary to measure cycles on an individual basis in case there are non-uniform periods in the response. Each period will be independently compared to the respective period of the airplane control system and, consequently, will enjoy the full tolerance specified for that period. The damping tolerance will be applied to overshoots on an individual basis. Care should be taken when applying the tolerance to small overshoots since the significance of such overshoots becomes questionable. Only those overshoots larger than 5 per cent of the total initial displacement should be considered. The residual band, labeled $T(A_d)$ on Figure A2A is ±5 percent of the initial displacement amplitude A_d from the steady state value of the oscillation. Only oscillations outside the residual band are considered significant. When comparing FFS data to airplane data, the process should begin by overlaying or aligning the FFS and airplane steady state values and then comparing amplitudes of oscillation peaks, the time of the first zero crossing and individual periods of oscillation. The FFS should show the same number of significant overshoots to within one when compared against the airplane data. The procedure for evaluating the response is illustrated in Figure A2A.

(b) Critically damped and overdamped response. Due to the nature of critically damped and overdamped responses (no overshoots), the time to reach 90 percent of the steady state (neutral point) value should be the same as the airplane within ±10 percent. Figure A2B illustrates the procedure.

(c) Special considerations. Control systems that exhibit characteristics other than classical overdamped or underdamped responses should meet specified tolerances. In addition, special consideration should be given to ensure that significant trends are maintained.

(2) Tolerances.

(a) The following table summarizes the tolerances, T, for underdamped systems, and ''n'' is the sequential period of a full cycle of oscillation. See Figure A2A of this attachment for an illustration of the referenced measurements.

$T(P_0)$	±10% of P_0
$T(P_1)$	±20% of P_1
$T(P_2)$	±30% of P_2
$T(P_n)$	±10(n+1)% of P_n
$T(A_n)$	±10% of A_1
$T(A_d)$	±5% of A_d = residual band
Significant overshoots.	First overshoot and ±1 subsequent overshoots

(b) The following tolerance applies to critically damped and overdamped systems only. See Figure A2B for an illustration of the reference measurements:

$T(P_0)$ ..... ±10% of P_0

End Information

Begin QPS Requirement

c. Alternative method for control dynamics evaluation.

(1) An alternative means for validating control dynamics for aircraft with hydraulically powered flight controls and artificial feel systems is by the measurement of control force and rate of movement. For each axis of pitch, roll, and yaw, the control must be forced to its maximum extreme position for the following distinct rates. These tests are conducted under normal flight and ground conditions.

(a) Static test—Slowly move the control so that a full sweep is achieved within 95 to 105 seconds. A full sweep is defined as movement of the controller from neutral to the stop, usually aft or right stop, then to the opposite stop, then to the neutral position.

(b) Slow dynamic test—Achieve a full sweep within 8–12 seconds.

(c) Fast dynamic test—Achieve a full sweep within 3–5 seconds.

Note: Dynamic sweeps may be limited to forces not exceeding 100 lbs. (44.5 daN).

(d) Tolerances

(i) Static test; see Table A2A, Full Flight Simulator (FFS) Objective Tests, Items 2.a.1., 2.a.2., and 2.a.3.

(ii) Dynamic test ±2 lbs (0.9 daN) or ±10% on dynamic increment above static test.

End QPS Requirement

Begin Information

d. The FAA is open to alternative means such as the one described above. The alternatives should be justified and appropriate to the application. For example, the method described here may not apply to all manufacturers'' systems and certainly not to aircraft with reversible control systems. Each case is considered on its own merit on an ad hoc basis. If the FAA finds that alternative methods do not result in satisfactory performance, more conventionally accepted methods will have to be used.

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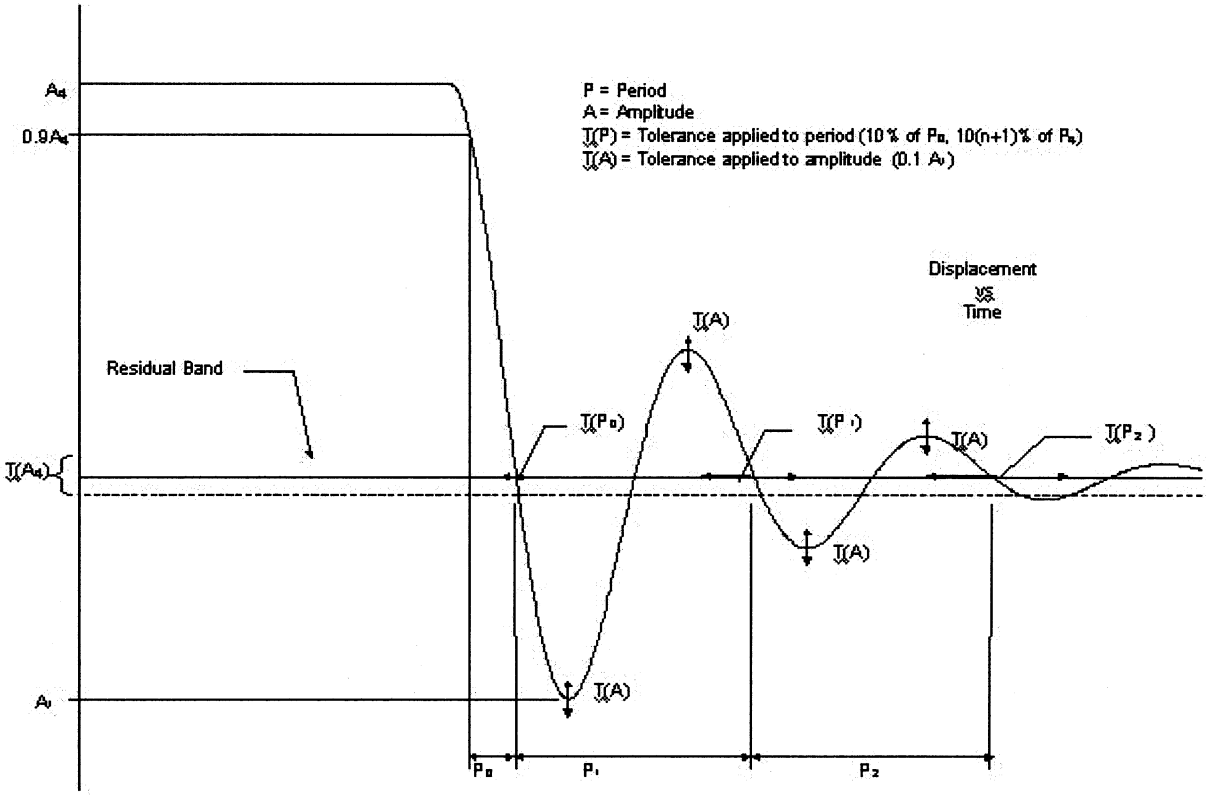

Figure A2A
Underdamped Step Response

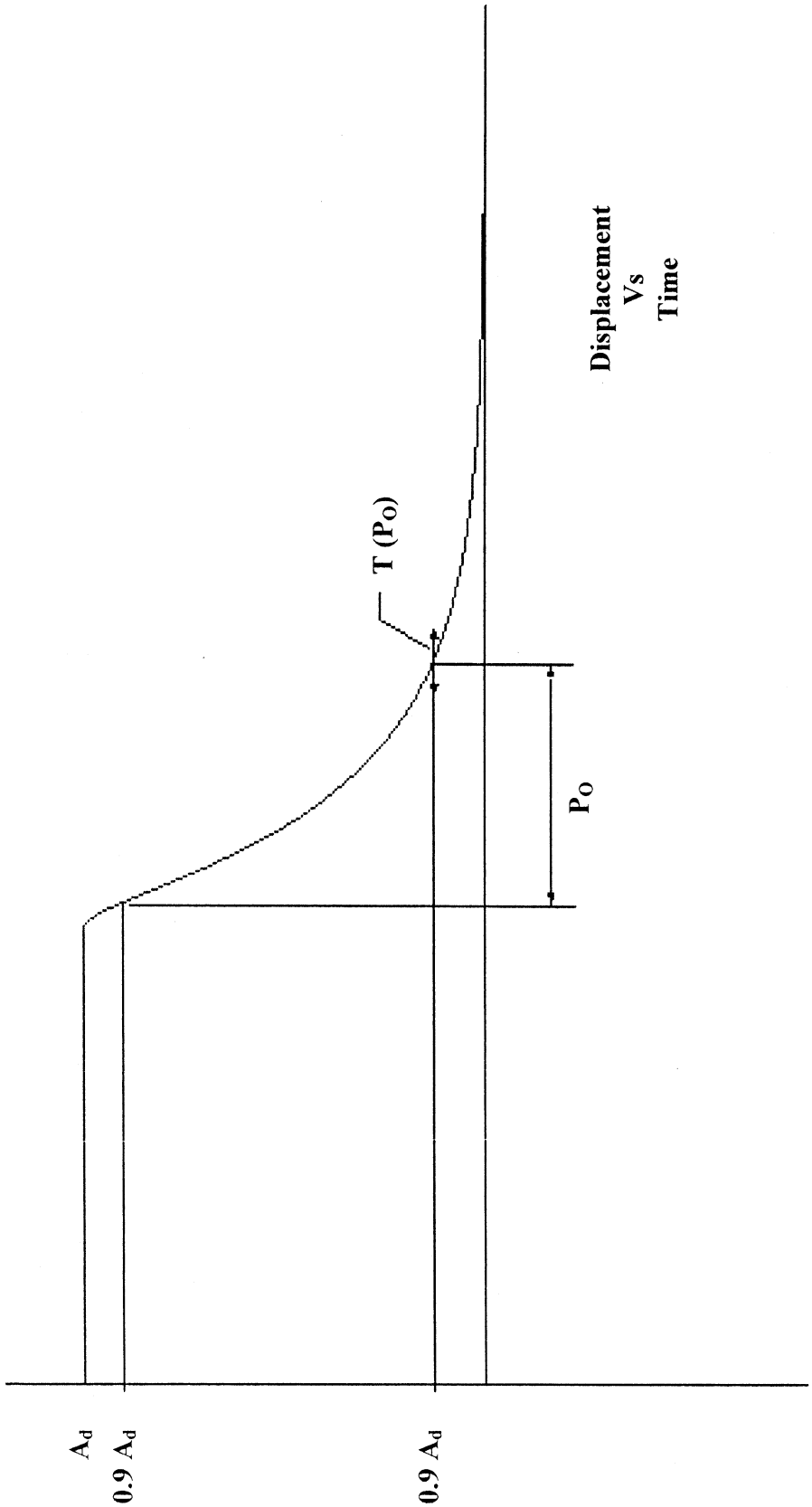

Figure A2B
Critically Damped and Overdamped Step Response

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5. Ground Effect

a. For an FFS to be used for take-off and landing (not applicable to Level A simulators in that the landing maneuver may not be credited in a Level A simulator) it should reproduce the aerodynamic changes that occur in ground effect. The parameters chosen for FFS validation should indicate these changes.

(1) A dedicated test should be provided that will validate the aerodynamic ground effect characteristics.

(2) The organization performing the flight tests may select appropriate test methods and procedures to validate ground effect. However, the flight tests should be performed with enough duration near the ground to sufficiently validate the ground-effect model.

b. The NSPM will consider the merits of testing methods based on reliability and consistency. Acceptable methods of validating ground effect are described below. If other methods are proposed, rationale should be provided to conclude that the tests performed validate the ground-effect model. A sponsor using the methods described below to comply with the QPS requirements should perform the tests as follows:

(1) Level fly-bys. The level fly-bys should be conducted at a minimum of three altitudes within the ground effect, including one at no more than 10% of the wingspan above the ground, one each at approximately 30% and 50% of the wingspan where height refers to main gear tire above the ground. In addition, one level-flight trim condition should be conducted out of ground effect (*e.g.*, at 150% of wingspan).

(2) Shallow approach landing. The shallow approach landing should be performed at a glide slope of approximately one degree with negligible pilot activity until flare.

c. The lateral-directional characteristics are also altered by ground effect. For example, because of changes in lift, roll damping is affected. The change in roll damping will affect other dynamic modes usually evaluated for FFS validation. In fact, Dutch roll dynamics, spiral stability, and roll-rate for a given lateral control input are altered by ground effect. Steady heading sideslips will also be affected. These effects should be accounted for in the FFS modeling. Several tests such as crosswind landing, one engine inoperative landing, and engine failure on take-off serve to validate lateral-directional ground effect since portions of these tests are accomplished as the aircraft is descending through heights above the runway at which ground effect is an important factor.

6. Motion System

a. General.

(1) Pilots use continuous information signals to regulate the state of the airplane. In concert with the instruments and outside-world visual information, whole-body motion feedback is essential in assisting the pilot to control the airplane dynamics, particularly in the presence of external disturbances. The motion system should meet basic objective performance criteria, and should be subjectively tuned at the pilot's seat position to represent the linear and angular accelerations of the airplane during a prescribed minimum set of maneuvers and conditions. The response of the motion cueing system should also be repeatable.

(2) The Motion System tests in Section 3 of Table A2A are intended to qualify the FFS motion cueing system from a mechanical performance standpoint. Additionally, the list of motion effects provides a representative sample of dynamic conditions that should be present in the flight simulator. An additional list of representative, training-critical maneuvers, selected from Section 1 (Performance tests), and Section 2 (Handling Qualities tests), in Table A2A, that should be recorded during initial qualification (but without tolerance) to indicate the flight simulator motion cueing performance signature have been identified (reference Section 3.e). These tests are intended to help improve the overall standard of FFS motion cueing.

b. Motion System Checks. The intent of test 3a, Frequency Response, test 3b, Leg Balance, and test 3c, Turn-Around Check, as described in the Table of Objective Tests, is to demonstrate the performance of the motion system hardware, and to check the integrity of the motion set-up with regard to calibration and wear. These tests are independent of the motion cueing software and should be considered robotic tests.

c. Motion System Repeatability. The intent of this test is to ensure that the motion system software and motion system hardware have not degraded or changed over time. This diagnostic test should be completed during continuing qualification checks in lieu of the robotic tests. This will allow an improved ability to determine changes in the software or determine degradation in the hardware. The following information delineates the methodology that should be used for this test.

(1) Input: The inputs should be such that rotational accelerations, rotational rates, and linear accelerations are inserted before the transfer from airplane center of gravity to pilot reference point with a minimum amplitude of 5 deg/sec/sec, 10 deg/sec and 0.3 g, respectively, to provide adequate analysis of the output.

(2) Recommended output:

(a) Actual platform linear accelerations; the output will comprise accelerations due to both the linear and rotational motion acceleration;

(b) Motion actuators position.

d. Motion Cueing Performance Signature.

(1) Background. The intent of this test is to provide quantitative time history records of motion system response to a selected set of automated QTG maneuvers during initial qualification. This is not intended to be a comparison of the motion platform accelerations against the flight test recorded accelerations (*i.e.*, not to be compared against airplane cueing). If there is a modification to the initially qualified motion software or motion hardware (*e.g.*, motion washout filter, simulator payload change greater than 10%) then a new baseline may need to be established.

(2) Test Selection. The conditions identified in Section 3.e. in Table A2A are those maneuvers where motion cueing is the most discernible. They are general tests applicable to all types of airplanes and should be completed for motion cueing performance signature at any time acceptable to the NSPM prior to or during the initial qualification evaluation, and the results included in the MQTG.

(3) Priority. Motion system should be designed with the intent of placing greater importance on those maneuvers that directly influence pilot perception and control of the airplane motions. For the maneuvers identified in section 3.e. in Table A2A, the flight simulator motion cueing system should have a high tilt co-ordination gain, high rotational gain, and high correlation with respect to the airplane simulation model.

(4) Data Recording. The minimum list of parameters provided should allow for the determination of the flight simulator's motion cueing performance signature for the initial qualification evaluation. The following parameters are recommended as being acceptable to perform such a function:

(a) Flight model acceleration and rotational rate commands at the pilot reference point;

(b) Motion actuators position;

(c) Actual platform position;

(d) Actual platform acceleration at pilot reference point.

e. Motion Vibrations.

(1) Presentation of results. The characteristic motion vibrations may be used to verify that the flight simulator can reproduce the frequency content of the airplane when flown in specific conditions. The test results should be presented as a Power Spectral Density (PSD) plot with frequencies on the horizontal axis and amplitude on the vertical axis. The airplane data and flight simulator data should be presented in the same format with the same scaling. The algorithms used for generating the flight simulator data should be the same as those used for the airplane data. If they are not the same then the algorithms used for the flight simulator data should be proven to be sufficiently comparable. As a minimum, the results along the dominant axes should be presented and a rationale for not presenting the other axes should be provided.

(2) Interpretation of results. The overall trend of the PSD plot should be considered while focusing on the dominant frequencies. Less emphasis should be placed on the differences at the high frequency and low amplitude portions of the PSD plot. During the analysis, certain structural components of the flight simulator have resonant frequencies that are filtered and may not appear in the PSD plot. If filtering is required, the notch filter bandwidth should be limited to 1 Hz to ensure that the buffet feel is not adversely affected. In addition, a rationale should be provided to explain that the characteristic motion vibration is not being adversely affected by the filtering. The amplitude should match airplane data as described below. However, if the PSD plot was altered for subjective reasons, a rationale should be provided to justify the change. If the plot is on a logarithmic scale, it may be difficult to interpret the amplitude of the buffet in terms of acceleration. For example, a 1×10^{-3} grams^2/Hz would describe a heavy buffet and may be seen in the deep stall regime. Alternatively, a 1×10^{-6} grams^2/Hz buffet is almost not perceivable; but may represent a flap buffet at low speed. The previous two examples differ in magnitude by 1000. On a PSD plot this represents three decades (one decade is a change in order of magnitude of 10; and two decades is a change in order of magnitude of 100).

7. Sound System

a. General. The total sound environment in the airplane is very complex, and changes

with atmospheric conditions, airplane configuration, airspeed, altitude, and power settings. Flight deck sounds are an important component of the flight deck operational environment and provide valuable information to the flight crew. These aural cues can either assist the crew (as an indication of an abnormal situation), or hinder the crew (as a distraction or nuisance). For effective training, the flight simulator should provide flight deck sounds that are perceptible to the pilot during normal and abnormal operations, and comparable to those of the airplane. The flight simulator operator should carefully evaluate background noises in the location where the device will be installed. To demonstrate compliance with the sound requirements, the objective or validation tests in this attachment were selected to provide a representative sample of normal static conditions typically experienced by a pilot.

b. Alternate propulsion. For FFS with multiple propulsion configurations, any condition listed in Table A2A of this attachment should be presented for evaluation as part of the QTG if identified by the airplane manufacturer or other data supplier as significantly different due to a change in propulsion system (engine or propeller).

c. Data and Data Collection System.

(1) Information provided to the flight simulator manufacturer should be presented in the format suggested by the International Air Transport Association (IATA) ''Flight Simulator Design and Performance Data Requirements,'' as amended. This information should contain calibration and frequency response data.

(2) The system used to perform the tests listed in Table A2A should comply with the following standards:

(a) The specifications for octave, half octave, and third octave band filter sets may be found in American National Standards Institute (ANSI) S1.11–1986;

(b) Measurement microphones should be type WS2 or better, as described in International Electrotechnical Commission (IEC) 1094–4–1995.

(3) Headsets. If headsets are used during normal operation of the airplane they should also be used during the flight simulator evaluation.

(4) Playback equipment. Playback equipment and recordings of the QTG conditions should be provided during initial evaluations.

(5) Background noise.

(a) Background noise is the noise in the flight simulator that is not associated with the airplane, but is caused by the flight simulator's cooling and hydraulic systems and extraneous noise from other locations in the building. Background noise can seriously impact the correct simulation of airplane sounds and should be kept below the airplane sounds. In some cases, the sound level of the simulation can be increased to compensate for the background noise. However, this approach is limited by the specified tolerances and by the subjective acceptability of the sound environment to the evaluation pilot.

(b) The acceptability of the background noise levels is dependent upon the normal sound levels in the airplane being represented. Background noise levels that fall below the lines defined by the following points, may be acceptable:

(i) 70 dB @ 50 Hz;

(ii) 55 dB @ 1000 Hz;

(iii) 30 dB @ 16 kHz

(**Note:** These limits are for unweighted 1/3 octave band sound levels. Meeting these limits for background noise does not ensure an acceptable flight simulator. Airplane sounds that fall below this limit require careful review and may require lower limits on background noise.)

(6) Validation testing. Deficiencies in airplane recordings should be considered when applying the specified tolerances to ensure that the simulation is representative of the airplane. Examples of typical deficiencies are:

(a) Variation of data between tail numbers;

(b) Frequency response of microphones;

(c) Repeatability of the measurements.

TABLE A2B.—EXAMPLE OF RECURRENT FREQUENCY RESPONSE TEST TOLERANCE

Band center frequency	Initial results (dBSPL)	Recurrent results (dBSPL)	Absolute difference
50	75.0	73.8	1.2
63	75.9	75.6	0.3
80	77.1	76.5	0.6
100	78.0	78.3	0.3
125	81.9	81.3	0.6
160	79.8	80.1	0.3
200	83.1	84.9	1.8
250	78.6	78.9	0.3
315	79.5	78.3	1.2
400	80.1	79.5	0.9
500	80.7	79.8	0.9
630	81.9	80.4	1.5
800	73.2	74.1	0.9
1000	79.2	80.1	0.9
1250	80.7	82.8	2.1
1600	81.6	78.6	3.0
2000	76.2	74.4	1.8
2500	79.5	80.7	1.2
3150	80.1	77.1	3.0
4000	78.9	78.6	0.3
5000	80.1	77.1	3.0
6300	80.7	80.4	0.3
8000	84.3	85.5	1.2
10000	81.3	79.8	1.5
12500	80.7	80.1	0.6
16000	71.1	71.1	0.0
Average	.....	1.1	

End Information

8. Additional Information About Flight Simulator Qualification for New or Derivative Airplanes

a. Typically, an airplane manufacturer's approved final data for performance, handling qualities, systems or avionics is not available until well after a new or derivative airplane has entered service. However, flight crew training and certification often begins several months prior to the entry of the first airplane into service. Consequently, it may be necessary to use preliminary data provided by the airplane manufacturer for interim qualification of flight simulators.

b. In these cases, the NSPM may accept certain partially validated preliminary airplane and systems data, and early release (''red label'') avionics data in order to permit the necessary program schedule for training, certification, and service introduction.

c. Simulator sponsors seeking qualification based on preliminary data should consult the NSPM to make special arrangements for using preliminary data for flight simulator qualification. The sponsor should also consult the airplane and flight simulator manufacturers to develop a data plan and flight simulator qualification plan.

d. The procedure to be followed to gain NSPM acceptance of preliminary data will vary from case to case and between airplane manufacturers. Each airplane manufacturer's new airplane development and test program is designed to suit the needs of the particular project and may not contain the same events or sequence of events as another manufacturer's program, or even the same manufacturer's program for a different airplane. Therefore, there cannot be a prescribed invariable procedure for acceptance of preliminary data, but instead there should be a statement describing the final sequence of events, data sources, and validation procedures agreed by the simulator sponsor, the airplane manufacturer, the flight simulator manufacturer, and the NSPM.

Note: A description of airplane manufacturer-provided data needed for flight simulator modeling and validation is to be found in the IATA Document ''Flight Simulator Design and Performance Data Requirements,'' as amended.

e. The preliminary data should be the manufacturer's best representation of the airplane, with assurance that the final data will not significantly deviate from the preliminary estimates. Data derived from these predictive or preliminary techniques should be validated available sources including, at least, the following:

(1) Manufacturer's engineering report. The report should explain the predictive method used and illustrate past success of the method on similar projects. For example, the manufacturer could show the application of the method to an earlier airplane model or predict the characteristics of an earlier model and compare the results to final data for that model.

(2) Early flight test results. This data is often derived from airplane certification tests, and should be used to maximum advantage for early flight simulator validation. Certain critical tests that would normally be done early in the airplane certification program should be included to validate essential pilot training and certification maneuvers. These include cases where a pilot is expected to cope with an airplane failure mode or an engine failure. Flight test data that will be available early in the flight test program will depend on the airplane manufacturer's flight test program design and may not be the same in each case. The flight test program of the airplane manufacturer should include provisions for generation of very early flight test results for flight simulator validation.

f. The use of preliminary data is not indefinite. The airplane manufacturer's final data should be available within 12 months after the airplane's first entry into service or as agreed by the NSPM, the simulator sponsor, and the airplane manufacturer. When applying for interim qualification using preliminary data, the simulator sponsor and the NSPM should agree on the update program. This includes specifying that the final data update will be installed in the flight simulator within a period of 12 months following the final data release, unless special conditions exist and a different schedule is acceptable. The flight simulator performance and handling validation would then be based on data derived from flight tests. Initial airplane systems data should be updated after engineering tests. Final airplane systems data should also be used for flight simulator programming and validation.

g. Flight simulator avionics should stay essentially in step with airplane avionics (hardware and software) updates. The permitted time lapse between airplane and flight simulator updates should be minimal. It may depend on the magnitude of the update and whether the QTG and pilot training and certification are affected. Differences in airplane and flight simulator avionics versions and the resulting effects on flight simulator qualification should be agreed between the simulator sponsor and the NSPM. Consultation with the flight simulator manufacturer is desirable throughout the qualification process.

h. The following describes an example of the design data and sources that might be used in the development of an interim qualification plan.

(1) The plan should consist of the development of a QTG based upon a mix of flight test and engineering simulation data. For data collected from specific airplane flight tests or other flights, the required design model or data changes necessary to support an acceptable Proof of Match (POM) should be generated by the airplane manufacturer.

(2) For proper validation of the two sets of data, the airplane manufacturer should compare their simulation model responses against the flight test data, when driven by the same control inputs and subjected to the same atmospheric conditions as recorded in the flight test. The model responses should result from a simulation where the following systems are run in an integrated fashion and are consistent with the design data released to the flight simulator manufacturer:

(a) Propulsion
(b) Aerodynamics;
(c) Mass properties;
(d) Flight controls;
(e) Stability augmentation; and
(f) Brakes/landing gear.

i. A qualified test pilot should be used to assess handling qualities and performance evaluations for the qualification of flight simulators of new airplane types.

End Information

Begin QPS Requirement

9. Engineering Simulator—Validation Data

a. When a fully validated simulation (i.e., validated with flight test results) is modified due to changes to the simulated airplane configuration, the airplane manufacturer or other acceptable data supplier must coordinate with the NSPM to supply validation data from an ''audited'' engineering simulator/simulation to selectively supplement flight test data. The NSPM must be provided an opportunity to audit the use of the engineering simulation or the engineering simulator during the acquisition of the data that will be used as validation data. Audited data may be used for changes that are incremental in nature. Manufacturers or other data suppliers should be able to demonstrate that the predicted changes in aircraft performance are based on acceptable aeronautical principles with proven success history and valid outcomes. This should include comparisons of predicted and flight test validated data.

b. Airplane manufacturers or other acceptable data suppliers seeking to use an engineering simulator for simulation validation data as an alternative to flight-test derived validation data, must contact the NSPM and provide the following:

(1) A description of the proposed aircraft changes, a description of the proposed simulation model changes, and the use of an integral configuration management process, including an audit of the actual simulation model modifications that includes a step-by-step description leading from the original model(s) to the current model(s).

(2) A schedule for review by the NSPM of the proposed plan and the subsequent validation data to establish acceptability of the proposal.

(3) Information that demonstrates an ability to qualify the FFS in which this data is to be used in accordance with the criteria contained in § 60.15.

c. To be qualified to supply engineering simulator validation data, for aerodynamic, engine, flight control, or ground handling models, an airplane manufacturer or other acceptable data supplier must:

(1) Be able to verify their ability to:

(a) Develop and implement high fidelity simulation models; and

(b) Predict the handling and performance characteristics of an airplane with sufficient accuracy to avoid additional flight test activities for those handling and performance characteristics.

(2) Have an engineering simulator that:

(a) Is a physical entity, complete with a flight deck representative of the simulated class of airplane;

(b) Has controls sufficient for manual flight;

(c) Has models that run in an integrated manner;

(d) Has fully flight-test validated simulation models as the original or baseline simulation models;

(e) Has an out-of-the-flight deck visual system;

(f) Has actual avionics boxes interchangeable with the equivalent software simulations to support validation of released software;

(g) Uses the same models as released to the training community (which are also used to produce stand-alone proof-of-match and checkout documents);

(h) Is used to support airplane development and certification; and

(i) Has been found to be a high fidelity representation of the airplane by the manufacturer's pilots (or other acceptable data supplier), certificate holders, and the NSPM.

(3) Use the engineering simulator to produce a representative set of integrated proof-of-match cases.

(4) Use a configuration control system covering hardware and software for the operating components of the engineering simulator.

(5) Demonstrate that the predicted effects of the change(s) are within the provisions of subparagraph ''a'' of this section, and confirm that additional flight test data are not required.

d. Additional Requirements for Validation Data

(1) When used to provide validation data, an engineering simulator must meet the simulator standards currently applicable to training simulators except for the data package.

(2) The data package used should be:

(a) Comprised of the engineering predictions derived from the airplane design, development, or certification process;

(b) Based on acceptable aeronautical principles with proven success history and valid outcomes for aerodynamics, engine operations, avionics operations, flight control applications, or ground handling;

(c) Verified with existing flight-test data; and

(d) Applicable to the configuration of a production airplane, as opposed to a flight-test airplane.

(3) Where engineering simulator data are used as part of a QTG, an essential match must exist between the training simulator and the validation data.

(4) Training flight simulator(s) using these baseline and modified simulation models must be qualified to at least internationally recognized standards, such as contained in the ICAO Document 9625, the ''Manual of Criteria for the Qualification of Flight Simulators.''

End QPS Requirement

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10. [Reserved]

Begin QPS Requirement

11. Validation Test Tolerances

a. Non-Flight-Test Tolerances

(1) If engineering simulator data or other non-flight-test data are used as an allowable form of reference validation data for the objective tests listed in Table A2A of this attachment, the data provider must supply a well-documented mathematical model and testing procedure that enables a replication of the engineering simulation results within 20% of the corresponding flight test tolerances.

End QPS Requirement

Begin Information

b. Background

(1) The tolerances listed in Table A2A of this attachment are designed to measure the quality of the match using flight-test data as a reference.

(2) Good engineering judgment should be applied to all tolerances in any test. A test is failed when the results fall outside of the prescribed tolerance(s).

(3) Engineering simulator data are acceptable because the same simulation models used to produce the reference data are also used to test the flight training simulator (i.e., the two sets of results should be ''essentially'' similar).

(4) The results from the two sources may differ for the following reasons:

(a) Hardware (avionics units and flight controls);

(b) Iteration rates;

(c) Execution order;

(d) Integration methods;

(e) Processor architecture;

(f) Digital drift, including:

(i) Interpolation methods;

(ii) Data handling differences; and

(iii) Auto-test trim tolerances.

(5) Any differences must be within 20% of the flight test tolerances. The reasons for any differences, other than those listed above, should be explained.

(6) Guidelines are needed for the application of tolerances to engineering-simulator-generated validation data because:

(a) Flight-test data are often not available due to sound technical reasons;

(b) Alternative technical solutions are being advanced; and

(c) High costs.

12. Validation Data Roadmap.

a. Airplane manufacturers or other data suppliers should supply a validation data roadmap (VDR) document as part of the data package. A VDR document contains guidance material from the airplane validation data supplier recommending the best possible sources of data to be used as validation data in the QTG. A VDR is of special value when requesting interim qualification, qualification of simulators for airplanes certificated prior to 1992, and qualification of alternate engine or avionics fits. A sponsor seeking to have a device qualified in accordance with the standards contained in this QPS appendix should submit a VDR to the NSPM as early as possible in the planning stages. The NSPM is the final authority to approve the data to be used as validation material for the QTG. The NSPM and the Joint Aviation Authorities' Synthetic Training Devices Advisory Board have committed to maintain a list of agreed VDRs.

b. The VDR should identify (in matrix format) sources of data for all required tests. It should also provide guidance regarding the validity of these data for a specific engine type, thrust rating configuration, and the revision levels of all avionics affecting airplane handling qualities and performance. The VDR should include rationale or explanation in cases where data or parameters are missing, engineering simulation data are to be used, flight test methods require explanation, or there is any deviation from data requirements. Additionally, the document should refer to other appropriate sources of validation data (e.g., sound and vibration data documents).

c. The VDR table shown in Table A2C depicts a generic roadmap matrix identifying sources of validation data for an abbreviated list of tests. A complete matrix should address all test conditions.

d. Two examples of rationale pages are presented in Appendix F of the IATA ''Flight Simulator Design and Performance Data Requirements.'' These illustrate the type of airplane and avionics configuration information and descriptive engineering rationale used to describe data anomalies, provide alternative data, or provide an acceptable basis for obtaining deviations from QTG validation requirements.

End Information

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ICAO or IATA #	Test Description	CCA Mode*1	Validation Source: Aircraft Flight Test Data *2	Validation Source: Engineering Simulator Data (DEF-73 Engines)	Validation Document: Aerodynamics POM Doc. # xxx123, Rev. A	Validation Document: Flight Controls POM Doc. # xxx456, NEW	Validation Document: Ground Handling POM Doc. # xxx789, Rev. B	Validation Document: Propulsion POM Doc. # xxx321, Rev. C	Validation Document: Integrated POM Doc. # xxx654, Rev. A	Validation Document: Appendix to this VDR Doc. # xxx987, NEW	Comments
	Notes: 1. Only one page is shown; and some test conditions were deleted for brevity; 2. Relevant regulatory material should be consulted and all applicable tests addressed; 3. Validation source, document and comments provided herein are for reference only and do not constitute approval for use										D71 = Engine Type: DEF-71, Thrust Rating: 71.5K D73 = Engine Type: DEF-73, Thrust Rating: 73K **BOLD** upper case denotes primary validation source Lower case denotes alternate validation source R = Rationale included in the VDR Appendix
1.a.1	Minimum Radius Turn		X				**D71**				
1.a.2	Rate of Turn vs. Nosewheel Angle (2 speeds)		X				**D71**				
1.b.1	Ground Acceleration Time and Distance		X				d73		**D73**		Primary data contained in IPOM
1.b.2	Minimum Control Speed, Ground (Vmcg)		x	X	d71					**D73**	See engineering rationale for test data in VDR
1.b.3	Minimum Unstick Speed (Vmu)		X		**D71**						
1.b.4	Normal Takeoff		X		d73				**D73**		Primary data contained in IPOM
1.b.5	Critical Engine Failure on Takeoff		X		d71					**D73**	Alternate engine thrust rating flight test data in VDR
1.b.6	Crosswind Takeoff		X		d71					**D73**	Alternate engine thrust rating flight test data in VDR
1.b.7	Rejected Takeoff		X		**D71**					R	Test procedure anomaly; see rationale
1.b.8	Dynamic Engine Failure After Takeoff			X						**D73**	No flight test data available; see rationale
1.c.1	Normal Climb - All Engine		X		d71				**D71**		Primary data contained in IPOM
1.c.2	Climb - Engine-Out, Second Segment		X		d71					**D73**	Alternate engine thrust rating flight test data in VDR
1.c.3	Climb - Engine-Out, Enroute		X		d71					**D73**	AFM data available (73K)
1.c.4	Engine-Out Approach Climb		X		**D71**						
1.c.5.a	Level Flight Acceleration		x	X	d73					**D73**	Eng sim data w/ modified EEC accel rate in VDR
1.c.5.b	Level Flight Deceleration		x	X	d73					**D73**	Eng sim data w/ modified EEC decel rate in VDR
1.d.1	Cruise Performance		X		**D71**						
1.e.1.a	Stopping Time & Distance (Wheel Brakes / Light weight)			X	**D71**					d73	No flight test data available; see rationale
1.e.1.b	Stopping Time & Distance (Wheel Brakes / Med weight)		X	x	**D71**					d73	
1.e.1.c	Stopping Time & Distance (Wheel Brakes / Heavy weight)		X	x	**D71**					d73	
1.e.2.a	Stopping Time & Distance (Reverse Thrust / Light weight)		X	x	**D71**					d73	
1.e.2.b	Stopping Time & Distance (Reverse Thrust / Med weight)			X	d71					**D73**	No flight test data available; see rationale

***1 CCA mode must be desc4ribed for each test condition.**

***2 If more than one aircraft type (e.g., derivative and baseline) are used as validation data, more columns may be necessary.**

Table A2C - Validation Data Roadmap

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Begin Information

13. Acceptance Guidelines for Alternative Engines Data

a. Background

(1) For a new airplane type, the majority of flight validation data are collected on the first airplane configuration with a ''baseline'' engine type. These data are then used to validate all flight simulators representing that airplane type.

(2) Additional flight test validation data may be needed for flight simulators representing an airplane with engines of a different type than the baseline, or for engines with thrust rating that is different from previously validated configurations.

(3) When a flight simulator with alternate engines is to be qualified, the QTG should contain tests against flight test validation data for selected cases where engine differences are expected to be significant.

b. Approval Guidelines for Validating Alternate Engine Applications.

(1) The following guidelines apply to flight simulators representing airplanes with alternate engine applications or with more than one engine type or thrust rating.

(2) Validation tests can be segmented into two groups, those that are dependent on engine type or thrust rating and those that are not.

(3) For tests that are independent of engine type or thrust rating, the QTG can be based on validation data from any engine application. Tests in this category should be designated as independent of engine type or thrust rating.

(4) For tests that are affected by engine type, the QTG should contain selected engine-specific flight test data sufficient to validate that particular airplane-engine configuration. These effects may be due to engine dynamic characteristics, thrust levels or engine-related airplane configuration changes. This category is primarily characterized by variations between different engine manufacturers' products, but also includes differences due to significant engine design changes from a previously flight-validated configuration within a single engine type. See Table A2D, Alternate Engine Validation Flight Tests in this section for a list of acceptable tests.

(5) The validation data should be based on flight test data, except where other data are specifically allowed. If certification of the flight characteristics of the airplane with a new thrust rating (regardless of percentage change) does require certification flight testing with a comprehensive stability and control flight instrumentation package, then the conditions described in Table A2D in this section should be obtained from flight testing and presented in the QTG. Flight test data, other than throttle calibration data, are not required if the new thrust rating is certified on the airplane without need for a comprehensive stability and control flight instrumentation package.

(6) As a supplement to the engine-specific flight tests listed in Table A2D and baseline engine-independent tests, additional engine-specific engineering validation data should be provided in the QTG, as appropriate, to facilitate running the entire QTG with the alternate engine configuration. The sponsor and the NSPM should agree in advance on the specific validation tests to be supported by engineering simulation data.

(7) A matrix or VDR should be provided with the QTG indicating the appropriate validation data source for each test.

(8) The flight test conditions in Table A2D are appropriate and should be sufficient to validate implementation of alternate engines in a flight simulator.

End Information

Begin QPS Requirement

c. Test Requirements

(1) The QTG must contain selected engine-specific flight test data sufficient to validate the alternative thrust level when:

(a) the engine type is the same, but the thrust rating exceeds that of a previously flight-test validated configuration by five percent (5%) or more; or

(b) the engine type is the same, but the thrust rating is less than the lowest previously flight-test validated rating by fifteen percent (15%) or more.

(2) Flight test data is not required if the thrust increase is greater than 5%, but flight tests have confirmed that the thrust increase does not change the airplane's flight characteristics.

(3) Throttle calibration data (i.e., commanded power setting parameter versus throttle position) must be provided to validate all alternate engine types and engine thrust ratings that are higher or lower than a previously validated engine. Data from a test airplane or engineering test bench with the correct engine controller (both hardware and software) are required.

End QPS Requirement

Begin QPS Requirement

TABLE A2D.—ALTERNATIVE ENGINE VALIDATION FLIGHT TESTS

Test Number	Test description	Alternative engine type	Alternative thrust rating [2]
1.b.1., 1.b.4.	Normal take-off/ground acceleration time and distance	X	X
1.b.2.	V_{mcg}, if performed for airplane certification	X	X
1.b.5.	Engine-out take-off.		
1.b.8.	Dynamic engine failure after take-off.		
	Either test may be performed	X	
1.b.7.	Rejected take-off if performed for airplane certification	X	
1.d.1.	Cruise performance	X	
1.f.1., 1.f.2.	Engine acceleration and deceleration	X	X
2.a.7.	Throttle calibration [1]	X	X
2.c.1.	Power change dynamics (acceleration)	X	X
2.d.1.	V_{mca} if performed for airplane certification	X	X
2.d.5.	Engine inoperative trim	X	X
2.e.1.	Normal landing	X	

[1] Must be provided for all changes in engine type or thrust rating; see paragraph 12.b.(7).
[2] See paragraphs 12.b.(5) through 12.b.(8), for a definition of applicable thrust ratings.

End QPS Requirement

Begin Information

14. Acceptance Guidelines for Alternative Avionics (Flight-Related Computers and Controllers)

a. Background

(1) For a new airplane type, the majority of flight validation data are collected on the first airplane configuration with a ''baseline'' flight-related avionics ship-set; (see subparagraph b.(2) in this paragraph). These data are then used to validate all flight simulators representing that airplane type.

(2) Additional validation data may be required for flight simulators representing an airplane with avionics of a different hardware design than the baseline, or a different software revision than previously validated configurations.

(3) When a flight simulator with additional or alternate avionics configurations is to be qualified, the QTG should contain tests against validation data for selected cases where avionics differences are expected to be significant.

b. Approval Guidelines for Validating Alternate Avionics

(1) The following guidelines apply to flight simulators representing airplanes with a revised avionics configuration, or more than one avionics configuration.

(2) The baseline validation data should be based on flight test data, except where other data are specifically allowed (e.g., engineering flight simulator data).

(3) The airplane avionics can be segmented into two groups, systems or components whose functional behavior contributes to the aircraft response presented in the QTG results, and systems that do not. The following avionics are examples of contributory systems for which hardware design changes or software revisions may lead to significant differences in the aircraft response relative to the baseline avionics configuration: flight control computers and controllers for engines, autopilot, braking system, nose wheel steering system, and high lift system. Related avionics such as stall warning and augmentation systems should also be considered.

(4) The acceptability of validation data used in the QTG for an alternative avionics fit should be determined as follows:

(a) For changes to an avionics system or component that do not affect QTG validation test response, the QTG test can be based on validation data from the previously validated avionics configuration.

(b) For an avionics change to a contributory system, where a specific test is not affected by the change (e.g., the avionics change is a Built In Test Equipment (BITE) update or a modification in a different flight phase), the QTG test can be based on validation data from the previously-validated avionics configuration. The QTG should include authoritative justification (e.g., from the airplane manufacturer or system supplier) that this avionics change does not affect the test.

(c) For an avionics change to a contributory system, the QTG may be based on validation data from the previously-validated avionics configuration if no new functionality is added and the impact of the avionics change on the airplane response is based on acceptable aeronautical principles with proven success history and valid outcomes. This should be supplemented with avionics-specific validation data from the airplane manufacturer's engineering simulation, generated with the revised avionics configuration. The QTG should also include an explanation of the nature of the change and its effect on the airplane response.

(d) For an avionics change to a contributory system that significantly affects some tests in the QTG or where new functionality is added, the QTG should be based on validation data from the previously validated avionics configuration and supplemental avionics-specific flight test data sufficient to validate the alternate avionics revision. Additional flight test validation data may not be needed if the avionics changes were certified without the need for testing with a comprehensive flight instrumentation package. The airplane manufacturer should coordinate flight simulator data requirements, in advance with the NSPM.

(5) A matrix or ''roadmap'' should be provided with the QTG indicating the appropriate validation data source for each test. The roadmap should include identification of the revision state of those contributory avionics systems that could affect specific test responses if changed.

15. Transport Delay Testing

a. This paragraph explains how to determine the introduced transport delay through the flight simulator system so that it does not exceed a specific time delay. The transport delay should be measured from control inputs through the interface, through each of the host computer modules and back through the interface to motion, flight instrument, and visual systems. The transport delay should not exceed the maximum allowable interval.

b. Four specific examples of transport delay are:

(1) Simulation of classic non-computer controlled airplanes;

(2) Simulation of computer controlled airplanes using real airplane black boxes;

(3) Simulation of computer controlled airplanes using software emulation of airplane boxes;

(4) Simulation using software avionics or re-hosted instruments.

c. Figure A2C illustrates the total transport delay for a non-computer-controlled airplane or the classic transport delay test. Since there are no airplane-induced delays for this case, the total transport delay is equivalent to the introduced delay.

d. Figure A2D illustrates the transport delay testing method using the real airplane controller system.

e. To obtain the induced transport delay for the motion, instrument and visual signal, the delay induced by the airplane controller should be subtracted from the total transport delay. This difference represents the introduced delay and should not exceed the standards prescribed in Table A1A.

f. Introduced transport delay is measured from the flight deck control input to the reaction of the instruments and motion and visual systems (See Figure A2C).

g. The control input may also be introduced after the airplane controller system and the introduced transport delay measured directly from the control input to the reaction of the instruments, and simulator motion and visual systems (See Figure A2D).

h. Figure A2E illustrates the transport delay testing method used on a flight simulator that uses a software emulated airplane controller system.

i. It is not possible to measure the introduced transport delay using the simulated airplane controller system architecture for the pitch, roll and yaw axes. Therefore, the signal should be measured directly from the pilot controller. The flight simulator manufacturer should measure the total transport delay and subtract the inherent delay of the actual airplane components because the real airplane controller system has an inherent delay provided by the airplane manufacturer. The flight simulator manufacturer should ensure that the introduced delay does not exceed the standards prescribed in Table A1A.

j. Special measurements for instrument signals for flight simulators using a real airplane instrument display system instead of a simulated or re-hosted display. For flight instrument systems, the total transport delay should be measured and the inherent delay of the actual airplane components subtracted to ensure that the introduced delay does not exceed the standards prescribed in Table A1A.

(1) Figure A2FA illustrates the transport delay procedure without airplane display simulation. The introduced delay consists of the delay between the control movement and the instrument change on the data bus.

(2) Figure A2FB illustrates the modified testing method required to measure introduced delay due to software avionics or re-hosted instruments. The total simulated instrument transport delay is measured and the airplane delay should be subtracted from this total. This difference represents the introduced delay and should not exceed the standards prescribed in Table A1A. The inherent delay of the airplane between the data bus and the displays is indicated in figure A2FA. The display manufacturer should provide this delay time.

k. Recorded signals. The signals recorded to conduct the transport delay calculations should be explained on a schematic block diagram. The flight simulator manufacturer should also provide an explanation of why each signal was selected and how they relate to the above descriptions.

l. Interpretation of results. Flight simulator results vary over time from test to test due to ''sampling uncertainty.'' All flight simulators run at a specific rate where all modules are executed sequentially in the host computer. The flight controls input can occur at any time in the iteration, but these data will not be processed before the start of the new iteration. For example, a flight simulator running at 60 Hz may have a difference of as much as 16.67 msec between test results. This does not mean that the test has failed. Instead, the difference is attributed to variations in input processing. In some conditions, the host simulator and the visual system do not run at the same iteration rate, so the output of the host computer to the visual system will not always be synchronized.

m. The transport delay test should account for both daylight and night modes of operation of the visual system. In both cases, the tolerances prescribed in Table A1A must be met and the motion response should occur before the end of the first video scan containing new information.

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Figure A2C
Transport Delay for simulation of classic non-computer controlled airplanes.

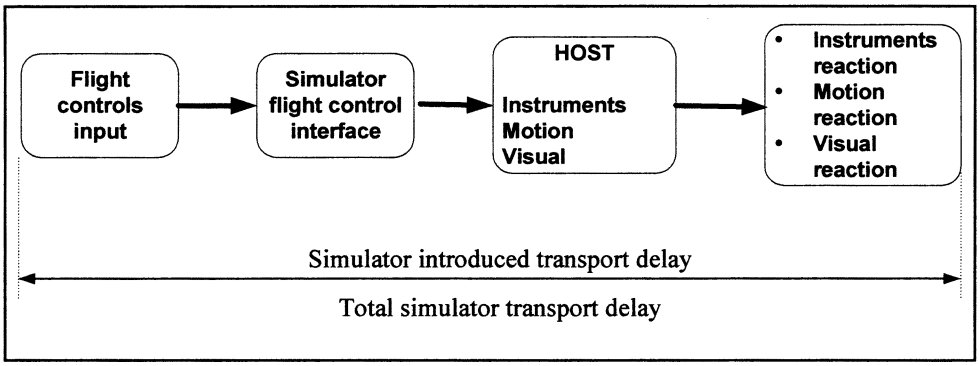


Figure A2D
Transport Delay for simulation of computer controlled airplanes using real airplane black boxes

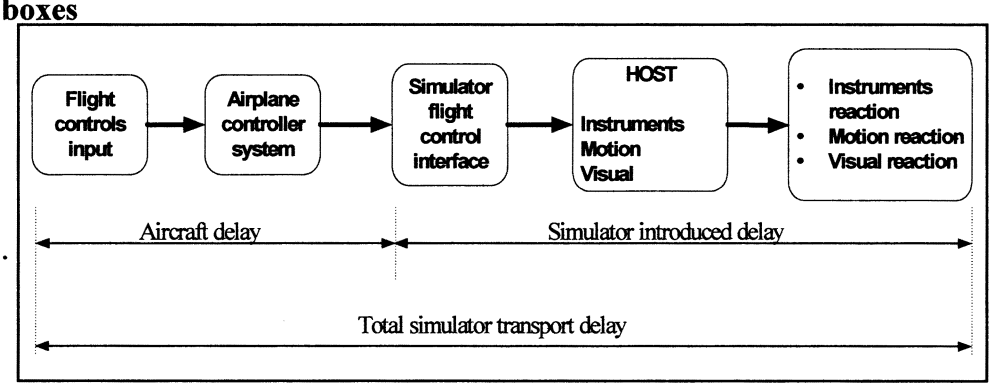


Figure A2E
Transport Delay for simulation of computer controlled airplanes using software emulation of airplane boxes

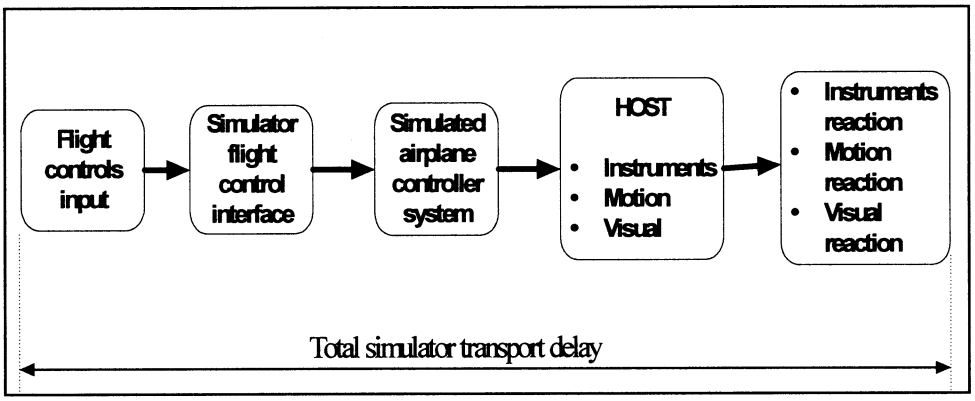
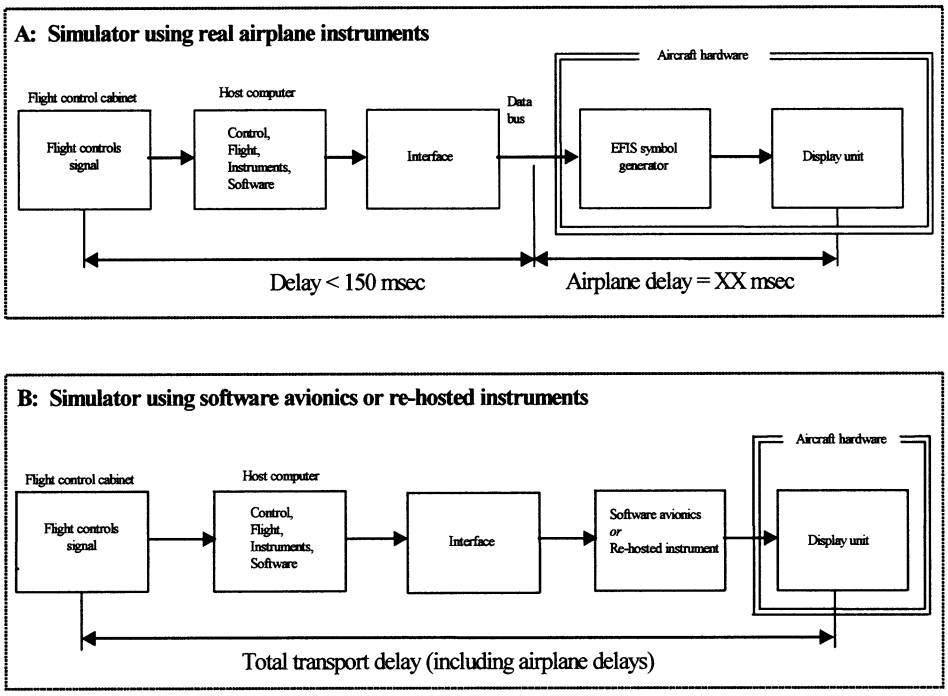


Figure A2FA and A2FB
Transport delay for simulation of airplanes using real or re-hosted instrument drivers



End Information

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Begin Information

16. Continuing Qualification Evaluations—Validation Test Data Presentation

a. Background

(1) The MQTG is created during the initial evaluation of a flight simulator. This is the master document, as amended, to which flight simulator continuing qualification evaluation test results are compared.

(2) The currently accepted method of presenting continuing qualification evaluation test results is to provide flight simulator results over-plotted with reference data. Test results are carefully reviewed to determine if the test is within the specified tolerances. This can be a time consuming process, particularly when reference data exhibits rapid variations or an apparent anomaly requiring engineering judgment in the application of the tolerances. In these cases, the solution is to compare the results to the MQTG. The ontinuing qualification results are compared to the results in the MQTG for acceptance. The flight simulator operator and the NSPM should look for any change in the flight simulator performance since initial qualification.

b. Continuing Qualification Evaluation Test Results Presentation

(1) Flight simulator operators are encouraged to over-plot continuing qualification validation test results with MQTG flight simulator results recorded during the initial evaluation and as amended. Any change in a validation test will be readily apparent. In addition to plotting continuing qualification validation test and MQTG results, operators may elect to plot reference data as well.

(2) There are no suggested tolerances between flight simulator continuing qualification and MQTG validation test results. Investigation of any discrepancy between the MQTG and continuing

qualification flight simulator performance is left to the discretion of the flight simulator operator and the NSPM.

(3) Differences between the two sets of results, other than variations attributable to repeatability issues that cannot be explained, should be investigated.

(4) The flight simulator should retain the ability to over-plot both automatic and manual validation test results with reference data.

End Information

Begin QPS Requirements

17. Alternative Data Sources, Procedures, and Instrumentation: Level A and Level B Simulators Only

a. Sponsors are not required to use the alternative data sources, procedures, and instrumentation. However, any sponsor choosing to use alternative sources must comply with the requirements in Table A2E.

End QPS Requirements

Begin Information

b. It has become standard practice for experienced simulator manufacturers to use modeling techniques to establish data bases for new simulator configurations while awaiting the availability of actual flight test data. The data generated from the aerodynamic modeling techniques is then compared to the flight test data when it becomes available. The results of such comparisons have become increasingly consistent, indicating that these techniques, applied with the appropriate experience, are dependable and accurate for the development of aerodynamic models for use in Level A and Level B simulators.

c. Based on this history of successful comparisons, the NSPM has concluded that those who are experienced in the development of aerodynamic models may use modeling techniques to alter the method for acquiring flight test data for Level A or Level B simulators.

d. The information in Table A2E (Alternative Data Sources, Procedures, and Instrumentation) is presented to describe an acceptable alternative to data sources for simulator modeling and validation and an acceptable alternative to the procedures and instrumentation traditionally used to gather such modeling and validation data.

(1) Alternative data sources that may be used for part or all of a data requirement are the Airplane Maintenance Manual, the Airplane Flight Manual (AFM), Airplane Design Data, the Type Inspection Report (TIR), Certification Data or acceptable supplemental flight test data.

(2) The sponsor should coordinate with the NSPM prior to using alternative data sources in a flight test or data gathering effort.

e. The NSPM position regarding the use of these alternative data sources, procedures, and instrumentation is based on the following presumptions:

(1) Data gathered through the alternative means does not require angle of attack (AOA) measurements or control surface position measurements for any flight test. However, AOA can be sufficiently derived if the flight test program ensures the collection of acceptable level, unaccelerated, trimmed flight data. All of the simulator time history tests that begin in level, unaccelerated, and trimmed flight, including the three basic trim tests and ''fly-by'' trims, can be a successful validation of angle of attack by comparison with flight test pitch angle. (Note: Due to the criticality of angle of attack in the development of the ground effects model, particularly critical for normal landings and landings involving cross-control input applicable to Level B simulators, stable ''fly-by'' trim data will be the acceptable norm for normal and cross-control input landing objective data for these applications.)

(2) The use of a rigorously defined and fully mature simulation controls system model that includes accurate gearing and cable stretch characteristics (where applicable), determined from actual aircraft measurements. Such a model does not require control surface position measurements in the flight test objective data in these limited applications.

f. The sponsor is urged to contact the NSPM for clarification of any issue regarding airplanes with reversible control systems. Table A2E is not applicable to Computer Controlled Aircraft full flight simulators.

g. Utilization of these alternate data sources, procedures, and instrumentation (Table A2E) does not relieve the sponsor from compliance with the balance of the information contained in this document relative to Level A or Level B FFSs.

h. The term ''inertial measurement system'' is used in the following table to include the use of a functional global positioning system (GPS).

i. Synchronized video for the use of alternative data sources, procedures, and instrumentation should have:

(1) Sufficient resolution to allow magnification of the display to make appropriate measurement and comparisons; and

(2) Sufficient size and incremental marking to allow similar measurement and comparison. The detail provided by the video should provide sufficient clarity and accuracy to measure the necessary parameter(s) to at least ½ of the tolerance authorized for the specific test being conducted and allow an integration of the parameter(s) in question to obtain a rate of change.

End Information

TABLE A2E.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION

<<<QPS requirements>>>

Table of objective tests	Sim level		Alternative data sources, procedures, and instrumentation	Notes and reminders
Test reference number and title	A	B		
The standards in this table are required if the data gathering methods described in paragraph 9 of Appendix A are not used.				
1.a.1. Performance. Taxi. Minimum Radius turn.	X	X	TIR, AFM, or Design data may be used	
1.a.2. Performance. Taxi Rate of Turn vs. Nosewheel Steering Angle.		X	Data may be acquired by using a constant tiller position, measured with a protractor or full rudder pedal application for steady state turn, and synchronized video of heading indicator. If less than full rudder pedal is used, pedal position must be recorded.	A single procedure may not be adequate for all airplane steering systems, therefore appropriate measurement procedures must be devised and proposed for NSPM concurrence.
1.b.1. Performance. Takeoff. Ground Acceleration Time and Distance.	X	X	Preliminary certification data may be used. Data may be acquired by using a stop watch, calibrated airspeed, and runway markers during a takeoff with power set before brake release. Power settings may be hand recorded. If an inertial measurement system is installed, speed and distance may be derived from acceleration measurements.	

TABLE A2E.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION—Continued

<<<QPS requirements>>>

Table of objective tests	Sim level		Alternative data sources, procedures, and instrumentation	Notes and reminders
Test reference number and title	A	B		
1.b.2. Performance. Takeoff. Minimum Control Speed-ground (V_{mcg}) using aerodynamic controls only (per applicable airworthiness standard) or low speed, engine inoperative ground control characteristics.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls.	Rapid throttle reductions at speeds near V_{mcg} may be used while recording appropriate parameters. The nose wheel must be free to caster, or equivalently freed of sideforce generation.
1.b.3. Performance. Takeoff. Minimum Unstick Speed (V_{mu}) or equivalent test to demonstrate early rotation takeoff characteristics.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and the force/position measurements of flight deck controls.	
1.b.4. Performance. Takeoff. Normal Takeoff.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls. AOA can be calculated from pitch attitude and flight path.	
1.b.5. Performance. Takeoff. Critical Engine Failure during Takeoff.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls.	Record airplane dynamic response to engine failure and control inputs required to correct flight path.
1.b.6. Performance. Takeoff. Crosswind Takeoff.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls.	The "1:7 law" to 100 feet (30 meters) is an acceptable wind profile.
1.b.7. Performance. Takeoff. Rejected Takeoff.	X	X	Data may be acquired with a synchronized video of calibrated airplane instruments, thrust lever position, engine parameters, and distance (e.g., runway markers). A stop watch is required.	
1.c.1. Performance. Climb. Normal Climb all engines operating.	X	X	Data may be acquired with a synchronized video of calibrated airplane instruments and engine power throughout the climb range.	
1.c.2. Performance. Climb. One Engine Inoperative Climb.	X	X	Data may be acquired with a synchronized video of calibrated airplane instruments and engine power throughout the climb range.	
1.c.4. Performance. Climb. One Engine Inoperative Approach Climb (if operations in icing conditions are authorized).	X	X	Data may be acquired with a synchronized video of calibrated airplane instruments and engine power throughout the climb range.	
1.d.1. Cruise/Descent. Level flight acceleration.	X	X	Data may be acquired with a synchronized video of calibrated airplane instruments, thrust lever position, engine parameters, and elapsed time.	
1.d.2. Cruise/Descent. Level flight deceleration.	X	X	Data may be acquired with a synchronized video of calibrated airplane instruments, thrust lever position, engine parameters, and elapsed time.	
1.d.4. Cruise/Descent. Idle descent ..	X	X	Data may be acquired with a synchronized video of calibrated airplane instruments, thrust lever position, engine parameters, and elapsed time.	
1.d.5. Cruise/Descent. Emergency Descent.	X	X	Data may be acquired with a synchronized video of calibrated airplane instruments, thrust lever position, engine parameters, and elapsed time.	
1.e.1. Performance. Stopping. Deceleration time and distance, using manual application of wheel brakes and no reverse thrust on a dry runway.	X	X	Data may be acquired during landing tests using a stop watch, runway markers, and a synchronized video of calibrated airplane instruments, thrust lever position and the pertinent parameters of engine power.	
1.e.2. Performance. Ground. Deceleration Time and Distance, using reverse thrust and no wheel brakes.	X	X	Data may be acquired during landing tests using a stop watch, runway markers, and a synchronized video of calibrated airplane instruments, thrust lever position and pertinent parameters of engine power.	
1.f.1. Performance. Engines. Acceleration.	X	X	Data may be acquired with a synchronized video recording of engine instruments and throttle position.	

TABLE A2E.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION—Continued

<<<QPS requirements>>>

Table of objective tests	Sim level		Alternative data sources, procedures, and instrumentation	Notes and reminders
Test reference number and title	A	B		
1.f.2. Performance. Engines. Deceleration.	X	X	Data may be acquired with a synchronized video recording of engine instruments and throttle position.	
2.a.1.a. Handling Qualities. Static Control Checks. Pitch Controller Position vs. Force and Surface Position Calibration.	X	X	Surface position data may be acquired from flight data recorder (FDR) sensor or, if no FDR sensor, at selected, significant column positions (encompassing significant column position data points), acceptable to the NSPM, using a control surface protractor on the ground (for airplanes with reversible control systems, this function should be accomplished with winds less than 5 kts.). Force data may be acquired by using a hand held force gauge at the same column position data points.	
2.a.2.a. Handling Qualities. Static Control Checks. Roll Controller Position vs. Force and Surface Position Calibration.	X	X	Surface position data may be acquired from flight data recorder (FDR) sensor or, if no FDR sensor, at selected, significant wheel positions (encompassing significant wheel position data points), acceptable to the NSPM, using a control surface protractor on the ground (for airplanes with reversible control systems, this function should be accomplished with winds less than 5 kts.). Force data may be acquired by using a hand held force gauge at the same wheel position data points.	
2.a.3.a. Handling Qualities. Static Control Checks. Rudder Pedal Position vs. Force and Surface Position Calibration.	X	X	Surface position data may be acquired from flight data recorder (FDR) sensor or, if no FDR sensor, at selected, significant rudder pedal positions (encompassing significant rudder pedal position data points), acceptable to the NSPM, using a control surface protractor on the ground (for airplanes with reversible control systems, this function should be accomplished with winds less than 5 kts.). Force data may be acquired by using a hand held force gauge at the same rudder pedal position data points.	
2.a.4. Handling Qualities. Static Control Checks. Nosewheel Steering Controller Force and Position.	X	X	Breakout data may be acquired with a hand held force gauge. The remainder of the force to the stops may be calculated if the force gauge and a protractor are used to measure force after breakout for at least 25% of the total displacement capability.	
2.a.5. Handling Qualities. Static Control Checks. Rudder Pedal Steering Calibration.	X	X	Data may be acquired through the use of force pads on the rudder pedals and a pedal position measurement device, together with design data for nose wheel position.	
2.a.6. Handling Qualities. Static Control Checks. Pitch Trim Indicator vs. Surface Position Calibration.	X	X	Data may be acquired through calculations.	
2.a.7. Handling qualities. Static control tests. Pitch trim rate.	X	X	Data may be acquired by using a synchronized video of pitch trim indication and elapsed time through range of trim indication.	
2.a.8. Handling Qualities. Static Control tests. Alignment of Flight deck Throttle Lever Angle vs. Selected engine parameter.	X	X	Data may be acquired through the use of a temporary throttle quadrant scale to document throttle position. Use a synchronized video to record steady state instrument readings or hand-record steady state engine performance readings.	
2.a.9. Handling qualities. Static control tests. Brake pedal position vs. force and brake system pressure calibration.	X	X	Use of design or predicted data is acceptable. Data may be acquired by measuring deflection at ''zero'' and ''maximum'' and calculating deflections between the extremes using the airplane design data curve.	
2.c.1. Handling qualities. Longitudinal control tests. Power change dynamics.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and throttle position.	

TABLE A2E.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION—Continued

<<<QPS requirements>>>

Table of objective tests	Sim level		Alternative data sources, procedures, and instrumentation	Notes and reminders
Test reference number and title	A	B		
2.c.2. Handling qualities. Longitudinal control tests. Flap/slat change dynamics.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and flap/slat position.	
2.c.3. Handling qualities. Longitudinal control tests. Spoiler/speedbrake change dynamics.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and spoiler/speedbrake position.	
2.c.4. Handling qualities. Longitudinal control tests. Gear change dynamics.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and gear position.	
2.c.5. Handling qualities. Longitudinal control tests. Longitudinal trim.	X	X	Data may be acquired through use of an inertial measurement system and a synchronized video of flight deck controls position (previously calibrated to show related surface position) and the engine instrument readings.	
2.c.6. Handling qualities. Longitudinal control tests. Longitudinal maneuvering stability (stick force/g).	X	X	Data may be acquired through the use of an inertial measurement system and a synchronized video of calibrated airplane instruments; a temporary, high resolution bank angle scale affixed to the attitude indicator; and a wheel and column force measurement indication.	
2.c.7. Handling qualities. Longitudinal control tests. Longitudinal static stability.	X	X	Data may be acquired through the use of a synchronized video of airplane flight instruments and a hand held force gauge.	
2.c.8. Handling qualities. Longitudinal control tests. Stall characteristics.	X	X	Data may be acquired through a synchronized video recording of a stop watch and calibrated airplane airspeed indicator. Hand-record the flight conditions and airplane configuration.	Airspeeds may be cross checked with those in the TIR and AFM.
2.c.9. Handling qualities. Longitudinal control tests. Phugoid dynamics.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls.	
2.c.10. Handling qualities. Longitudinal control tests. Short period dynamics.		X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls.	
2.d.1. Handling qualities. Lateral directional tests. Minimum control speed, air (V_{mca} or V_{mci}), per applicable airworthiness standard or Low speed engine inoperative handling characteristics in the air.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls.	
2.d.2. Handling qualities. Lateral directional tests. Roll response (rate).	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck lateral controls.	May be combined with step input of flight deck roll controller test, 2.d.3.
2.d.3. Handling qualities. Lateral directional tests. Roll response to flight deck roll controller step input.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck lateral controls.	
2.d.4. Handling qualities. Lateral directional tests. Spiral stability.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments; force/position measurements of flight deck controls; and a stop watch.	

TABLE A2E.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION—Continued

<<<QPS requirements>>>

Table of objective tests	Sim level		Alternative data sources, procedures, and instrumentation	Notes and reminders
Test reference number and title	A	B		
2.d.5. Handling qualities. Lateral directional tests. Engine inoperative trim.	X	X	Data may be hand recorded in-flight using high resolution scales affixed to trim controls that have been calibrated on the ground using protractors on the control/trim surfaces with winds less than 5 kts. OR Data may be acquired during second segment climb (with proper pilot control input for an engine-out condition) by using a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls.	Trimming during second segment climb is not a certification task and should not be conducted until a safe altitude is reached.
2.d.6. Handling qualities. Lateral directional tests. Rudder response.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of rudder pedals.	
2.d.7. Handling qualities. Lateral directional tests. Dutch roll (yaw damper OFF).	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls.	
2.d.8. Handling qualities. Lateral directional tests. Steady state sideslip.	X	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls. Ground track and wind corrected heading may be used for sideslip angle.	
2.e.1. Handling qualities. Landings. Normal landing.		X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls.	
2.e.3. Handling qualities. Landings. Crosswind landing.		X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls.	
2.e.4. Handling qualities. Landings. One engine inoperative landing.		X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and the force/position measurements of flight deck controls. Normal and lateral accelerations may be recorded in lieu of AOA and sideslip.	
2.e.5. Handling qualities. Landings. Autopilot landing (if applicable).		X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls. Normal and lateral accelerations may be recorded in lieu of AOA and sideslip.	
2.e.6. Handling qualities. Landings. All engines operating, autopilot, go around.		X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls. Normal and lateral accelerations may be recorded in lieu of AOA and sideslip.	
2.e.7. Handling qualities. Landings. One engine inoperative go around.		X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls. Normal and lateral accelerations may be recorded in lieu of AOA and sideslip.	
2.e.8. Handling qualities. Landings. Directional control (rudder effectiveness with symmetric thrust).		X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls. Normal and lateral accelerations may be recorded in lieu of AOA and sideslip.	
2.e.9. Handling qualities. Landings. Directional control (rudder effectiveness with asymmetric reverse thrust).		X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls. Normal and lateral accelerations may be recorded in lieu of AOA and sideslip.	

TABLE A2E.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION—Continued

<<<QPS requirements>>>

Table of objective tests	Sim level		Alternative data sources, procedures, and instrumentation	Notes and reminders
Test reference number and title	A	B		
2.f. Handling qualities. Ground effect. Test to demonstrate ground effect.		X	Data may be acquired by using calibrated airplane instruments, an inertial measurement system, and a synchronized video of calibrated airplane instruments and force/position measurements of flight deck controls.	

End Information

Attachment 3 to Appendix A to Part 60—Simulator Subjective Evaluation

Begin QPS Requirements

1. Requirements

a. Except for special use visual scenes and airport models described below, all visual scenes and airport models required by this part must be representations of real-world, operational airports or representations of fictional airports and must meet the requirements set out in Tables A3B and A3C of this attachment, as appropriate.

b. If fictional airports are used, the sponsor must ensure that navigational aids and all appropriate maps, charts, and other navigational reference material for the fictional airports (and surrounding areas as necessary) are compatible, complete, and accurate with respect to the visual presentation and scene content of the visual model of this fictional airport. An SOC must be submitted that addresses navigation aid installation and performance and other criteria (including obstruction clearance protection) for all instrument approaches to the fictional airports that are available in the simulator. The SOC must reference and account for information in the terminal instrument procedures manual and the construction and availability of the required maps, charts, and other navigational material. This material must be clearly marked ''for training purposes only.''

c. When the simulator is being used by an instructor or evaluator for purposes of training, checking, or testing under this chapter, only visual scenes and airport models classified as Class I, Class II, or Class III may be available to the instructor or evaluator. The classifications are as follows:

(1) Class I (whether modeling real world airports or fictional airports), for those visual scenes and airport models used for simulator qualification at a specified level. These visual scenes and airport models must meet the minimum requirements in Table A3B of this attachment, be evaluated by the NSPM, be listed on the Statement of Qualification (SOQ), and be available for use at the simulator IOS.

(2) Class II (whether modeling real world airports or fictional airports), for those visual scenes and airport models that are in excess of those used for simulator qualification at a specified level. These visual scenes and airport models must meet the minimum requirements set out in Table A3C of this attachment. These visual scenes and airport models may be made available on the simulator IOS without further involvement of the NSPM or the TPAA.

(3) For an interim period ending [date 2 years after the effective date of the final rule], Class III visual scenes and airport models (whether modeling real world airports, generic airports, or fictional airports) may be approved for specific purposes by the TPAA or a foreign regulatory authority for a foreign user of the device. Examples of approved activities include specific airport or runway qualification, very low visibility operations training, including Surface Movement Guidance System (SMGS) operations, or use of a specific airport visual model aligned with an instrument procedure for another airport for instrument training. At the end of the interim period, all Class III visual scenes and airport models must be classified as either a Class I or a Class II visual scene or airport model or be removed from availability at the simulator IOS. However, Class III visual scenes and airport models may continue to be used after the end of the interim period if they are part of a training program specifically approved by the TPAA or other regulatory authority that uses a task and capability analysis as the basis for approval of this specific media element, (i.e., the specific scene or model selected for use in that program).

d. When a person sponsors an FSTD maintained by a person other than a U.S. certificate holder, the sponsor is accountable for that FSTD originally meeting, and continuing to meet, the criteria under which it was originally qualified and the appropriate Part 60 criteria, including the visual scenes and airport models that may be used by instructors or evaluators for purposes of training, checking, or testing under this chapter.

e. Neither Class II nor Class III airport visual models are required to appear on the SOQ. However, the sponsor is responsible for ensuring the FSTD originally meets, and continues to meet, the visual scene and airport model requirements for Class II or Class III visual scenes and airport models that may be used by instructors or evaluators for training, checking, or testing under this chapter.

f. When the visual scenes and airport models represent real world airports and a permanent change is made to that real world airport (e.g., a new runway, an extended taxiway, a new lighting system, a runway closure) without a written extension grant from the NSPM (described below), an update to that visual scene or airport model must be made in accordance with the following time limits:

(1) For a new airport runway, a runway extension, a new airport taxiway, a taxiway extension, or a runway/taxiway closure—within 60 days of the opening for use of the new airport runway, runway extension, new airport taxiway, or taxiway extension; or within 60 days of the closure of the runway or taxiway.

(2) For a new or modified approach light system—within 30 days of the activation of the new or modified approach light system.

(3) For other facility or structural changes on the airport (e.g., new terminal, relocation of Air Traffic Control Tower)—within 6 months of the opening of the new or changed facility or structure.

g. If a sponsor desires an extension to the time limit for an update to a visual scene or airport model, the sponsor must provide a written extension request to the POI/TCPM stating the reason for the update delay and a proposed completion date. A copy of this request must also be sent to the NSPM. The sponsor will forward a copy of the POI/TCPM's response to the NSPM. If the POI/TCPM has granted an extension, the NSPM will issue an extension authorization, not to exceed an additional 12 months.

End QPS Requirements

Begin Information

2. Discussion

a. The subjective tests provide a basis for evaluating the capability of the simulator to perform over a typical utilization period; determining that the simulator accurately simulates each required maneuver, procedure, or task; and verifying correct operation of the simulator controls, instruments, and systems. The items listed in the following Tables are for simulator evaluation purposes only. They may not be used to limit or exceed the authorizations for use of a given level of simulator as described on the Statement of Qualification or as may be approved by the TPAA.

b. The tests in Table A3A, Operations Tasks, in this attachment, address pilot functions, including maneuvers and procedures (called flight tasks), and are divided by flight phases. The performance of these tasks by the NSPM includes an operational examination of the visual system and special effects. There are flight tasks included to address some features of advanced technology airplanes and

innovative training programs. For example, ''high angle-of-attack maneuvering'' is included to provide a required alternative to ''approach to stalls'' for airplanes employing flight envelope protection functions.

c. The tests in Table A3A, Operations Tasks, and Table A3G, Instructor Operating Station of this attachment, address the overall function and control of the simulator including the various simulated environmental conditions; simulated airplane system operations (normal, abnormal, and emergency); visual system displays; and special effects necessary to meet flight crew training, evaluation, or flight experience requirements.

d. All simulated airplane systems functions will be assessed for normal and, where appropriate, alternate operations. Normal, abnormal, and emergency operations associated with a flight phase will be assessed during the evaluation of flight tasks or events within that flight phase. Simulated airplane systems are listed separately under ''Any Flight Phase'' to ensure appropriate attention to systems checks. Operational navigation systems (including inertial navigation systems, global positioning systems, or other long-range systems) and the associated electronic display systems will be evaluated if installed. The NSP pilot will include in his report to the TPAA, the effect of the system operation and any system limitation.

e. Simulators demonstrating a satisfactory circling approach will be qualified for the circling approach maneuver and may be approved for such use by the TPAA in the sponsor's FAA-approved flight training program. To be considered satisfactory, the circling approach will be flown at maximum gross weight for landing, with minimum visibility for the airplane approach category, and must allow proper alignment with a landing runway at least 90 (different from the instrument approach course while allowing the pilot to keep an identifiable portion of the airport in sight throughout the maneuver (reference—14 CFR 91.175(e)).

f. At the request of the TPAA, the NSPM may assess a device to determine if it is capable of simulating certain training activities in a sponsor's training program, such as a portion of a Line Oriented Flight Training (LOFT) scenario. Unless directly related to a requirement for the qualification level, the results of such an evaluation would not affect the qualification level of the simulator. However, if the NSPM determines that the simulator does not accurately simulate that training activity, the simulator would not be approved for that training activity.

g. The FAA intends to allow the use of Class III visual scenes and airport models on a limited basis when the sponsor provides the TPAA (or other regulatory authority) an appropriate analysis of the skills, knowledge, and abilities (SKAs) necessary for competent performance of the tasks in which this particular media element is used. The analysis should describe the ability of the FSTD/visual media to provide an adequate environment in which the required SKAs may be satisfactorily performed and learned. The analysis should also include the specific media element, such as the visual scene or airport model. Additional sources of information on the conduct of task and capability analysis may be found on the FAA's Advanced Qualification Program (AQP) Web site at: *http://www.faa.gov/education_research/training/aqp/.*

h. Previously qualified simulators with certain early generation Computer Generated Image (CGI) visual systems, are limited by the capability of the Image Generator or the display system used. These systems are:

(1) Early CGI visual systems that are excepted from the requirement of including runway numbers as a part of the specific runway marking requirements are:

(a) Link NVS and DNVS.

(b) Novoview 2500 and 6000.

(c) FlightSafety VITAL series up to, and including, VITAL III, but not beyond.

(d) Redifusion SP1, SP1T, and SP2.

(2) Early CGI visual systems are excepted from the requirement of including runway numbers unless the runways are used for LOFT training sessions. These LOFT airport models require runway numbers but only for the specific runway end (one direction) used in the LOFT session. The systems required to display runway numbers only for LOFT scenes are:

(a) FlightSafety VITAL IV.

(b) Redifusion SP3 and SP3T.

(c) Link-Miles Image II.

(3) The following list of previously qualified CGI and display systems are incapable of generating blue lights. These systems are not required to have accurate taxi-way edge lighting:

(a) Redifusion SP1.

(b) FlightSafety Vital IV.

(c) Link-Miles Image II and Image IIT

(d) XKD displays (even though the XKD image generator is capable of generating blue colored lights, the display cannot accommodate that color).

End Information

TABLE A3A.—FUNCTIONS AND SUBJECTIVE TESTS

<<<QPS requirements>>>

Number	Operation tasks	Simulator level			
		A	B	C	D
	Tasks in this table are subject to evaluation if appropriate for the airplane simulated as indicated in the SOQ Configuration List or the level of simulator qualification involved. Items not installed or not functional on the simulator and, therefore, not appearing on the SOQ Configuration List, are not required to be listed as exceptions on the SOQ.				
1.	Preparation for Flight Preflight. Accomplish a functions check of all switches, indicators, systems, and equipment at all crewmembers' and instructors' stations and determine that the flight deck design and functions are identical to that of the airplane simulated.	X	X	X	X
2.	Surface Operations (Pre-Take-Off)				
2.a.	Engine Start				
2.a.1.	Normal start	X	X	X	X
2.a.2.	Alternate start procedures	X	X	X	X
2.a.3.	Abnormal starts and shutdowns (e.g., hot/hung start, tail pipe fire)	X	X	X	X
2.b.	Pushback/Powerback				
2.c.	Taxi				
2.c.1.	Thrust response	X	X	X	X

TABLE A3A.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Operation tasks	Simulator level			
		A	B	C	D
2.c.2.	Power lever friction	X	X	X	X
2.c.3.	Ground handling	X	X	X	X
2.c.4.	Nose wheel scuffing			X	X
2.c.5.	Brake operation (normal and alternate/emergency)	X	X	X	X
2.c.6.	Brake fade (if applicable)	X	X	X	X
3.	Take-off				
3.a.	Normal				
3.a.1.	Airplane/engine parameter relationships	X	X	X	X
3.a.2.	Acceleration characteristics (motion)	X	X	X	X
3.a.3.	Nose wheel and rudder steering	X	X	X	X
3.a.4.	Crosswind (maximum demonstrated)	X	X	X	X
3.a.5.	Special performance (e.g., reduced V_1, max de-rate, short field operations)	X	X	X	X
3.a.6.	Low visibility take-off	X	X	X	X
3.a.7.	Landing gear, wing flap leading edge device operation	X	X	X	X
3.a.8.	Contaminated runway operation			X	X
3.b.	Abnormal/emergency				
3.b.1.	Rejected Take-off	X	X	X	X
3.b.2.	Rejected special performance (e.g., reduced V_1, max de-rate, short field operations)	X	X	X	X
3.b.3.	With failure of most critical engine at most critical point, continued take-off	X	X	X	X
3.b.4.	With wind shear	X	X	X	X
3.b.5.	Flight control system failures, reconfiguration modes, manual reversion and associated handling	X	X	X	X
3.b.6.	Rejected takeoff with brake fade			X	X
3.b.7.	Rejected, contaminated runway			X	X
3.b.8.	Propulsion System Malfunction: (i) Prior to V1 decision speed (ii) Between V1 and Vr (rotation speed) (iii) Between Vr and 500 feet above ground level			X	X
4.	Climb				
4.a.	Normal	X	X	X	X
4.b.	One or more engines inoperative	X	X	X	X
5.	Cruise				
5.a.	Performance characteristics (speed vs. power)	X	X	X	X
5.b.	High altitude handling	X	X	X	X
5.c.	High Mach number handling (Mach tuck, Mach buffet) and recovery (trim change)	X	X	X	X
5.d.	Overspeed warning (in excess of V_{mo} or M_{mo})	X	X	X	X
5.e.	High IAS handling	X	X	X	X

TABLE A3A.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Operation tasks	Simulator level			
		A	B	C	D
6.	Maneuvers				
6.a.	High angle of attack, approach to stalls, stall warning, buffet, and g-break (take-off, cruise, approach, and landing configuration).	X	X	X	X
6.b.	Flight envelope protection (high angle of attack, bank limit, overspeed, etc.)	X	X	X	X
6.c.	Turns with/without speedbrake/spoilers deployed	X	X	X	X
6.d.	Normal and steep turns	X	X	X	X
6.e.	In flight engine shutdown and restart (assisted and windmill)	X	X	X	X
6.f.	Maneuvering with one or more engines inoperative, as appropriate	X	X	X	X
6.g.	Specific flight characteristics (e.g., direct lift control)	X	X	X	X
6.h.	Flight control system failures, reconfiguration modes, manual reversion and associated handling	X	X	X	X
7.	Descent				
7.a.	Normal	X	X	X	X
7.b.	Maximum rate (clean and with speedbrake, etc.)	X	X	X	X
7.c.	With autopilot	X	X	X	X
7.d.	Flight control system failures, reconfiguration modes, manual reversion and associated handling	X	X	X	X
8.	Instrument Approaches And Landing. Those instrument approach and landing tests relevant to the simulated airplane type are selected from the following list. Some tests are made with limiting wind velocities, under windshear conditions, and with relevant system failures, including the failure of the Flight Director. If Standard Operating Procedures allow use autopilot for non-precision approaches, evaluation of the autopilot will be included. Level A simulators are not authorized to credit the landing maneuver.				
8.a.	Precision				
8.a.1.	PAR	X	X	X	X
8.a.2.	CAT I/GBAS (ILS/MLS) published approaches	X	X	X	X
	(i) Manual approach with/without flight director including landing	X	X	X	X
	(ii) Autopilot/autothrottle coupled approach and manual landing	X	X	X	X
	(iii) Manual approach to DH and go-around all engines	X	X	X	X
	(iv) Manual one engine out approach to DH and go-around	X	X	X	X
	(v) Manual approach controlled with and without flight director to 30 m (100 ft) below CAT I minima	X	X	X	X
	A. With cross-wind (maximum demonstrated)	X	X	X	X
	B. With windshear	X	X	X	X
	(vi) Autopilot/autothrottle coupled approach, one engine out to DH and go-around	X	X	X	X
	(vii) Approach and landing with minimum/standby electrical power	X	X	X	X
8.a.3.	CAT II/GBAS (ILS/MLS) published approaches	X	X	X	X
	(i) Autopilot/autothrottle coupled approach to DH and landing	X	X	X	X
	(ii) Autopilot/autothrottle coupled approach to DH and go-around	X	X	X	X
	(iii) Autocoupled approach to DH and manual go-around	X	X	X	X

TABLE A3A.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Operation tasks	Simulator level			
		A	B	C	D
	(iv) Category II published approach (auto-coupled, autothrottle)	X	X	X	X
8.a.4.	CAT III/GBAS (ILS/MLS) published approaches	X	X	X	X
	(i) Autopilot/autothrottle coupled approach to land and rollout	X	X	X	X
	(ii) Autopilot/autothrottle coupled approach to DH/Alert Height and go-around	X	X	X	X
	(iii) Autopilot/autothrottle coupled approach to land and rollout with one engine out	X	X	X	X
	(iv) Autopilot/autothrottle coupled approach to DH/Alert Height and go-around with one engine out	X	X	X	X
	(v) Autopilot/autothrottle coupled approach (to land or to go around)	X	X	X	X
	A. With generator failure	X	X	X	X
	B. With 10 knot tail wind	X	X	X	X
	C. With 10 knot crosswind	X	X	X	X
8.b.	Non-precision				
8.b.1.	NDB	X	X	X	X
8.b.2.	VOR, VOR/DME, VOR/TAC	X	X	X	X
8.b.3.	RNAV (GNSS/GPS)	X	X	X	X
8.b.4.	ILS LLZ (LOC), LLZ(LOC)/BC	X	X	X	X
8.b.5.	ILS offset localizer	X	X	X	X
8.b.6.	Direction finding facility (ADF/SDF)	X	X	X	X
8.b.7.	Airport surveillance radar (ASR)	X	X	X	X
9.	Visual Approaches (Visual Segment) And Landings. Flight simulators with visual systems, which permit completing a special approach procedure in accordance with applicable regulations, may be approved for that particular approach procedure.				
9.a.	Maneuvering, normal approach and landing, all engines operating with and without visual approach aid guidance.	X	X	X	X
9.b.	Approach and landing with one or more engines inoperative	X	X	X	X
9.c.	Operation of landing gear, flap/slats and speedbrakes (normal and abnormal)	X	X	X	X
9.d.	Approach and landing with crosswind (max. demonstrated)	X	X	X	X
9.e.	Approach to land with windshear on approach	X	X	X	X
9.f.	Approach and landing with flight control system failures, reconfiguration modes, manual reversion and associated handling (most significant degradation which is probable).	X	X	X	X
9.g.	Approach and landing with trim malfunctions	X	X	X	X
9.g.1.	Longitudinal trim malfunction	X	X	X	X
9.g.2.	Lateral-directional trim malfunction	X	X	X	X
9.h.	Approach and landing with standby (minimum) electrical/hydraulic power	X	X	X	X
9.i.	Approach and landing from circling conditions (circling approach)	X	X	X	X
9.j.	Approach and landing from visual traffic pattern	X	X	X	X
9.k.	Approach and landing from non-precision approach	X	X	X	X
9.l.	Approach and landing from precision approach	X	X	X	X

TABLE A3A.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Operation tasks	Simulator level			
		A	B	C	D
9.m.	Approach procedures with vertical guidance (APV), e.g., SBAS	X	X	X	X
10.	Missed Approach				
10.a.	All engines	X	X	X	X
10.b.	One or more engine(s) out	X	X	X	X
10.c.	With flight control system failures, reconfiguration modes, manual reversion and associated handling	X	X	X	X
11.	Surface Operations (Landing roll and taxi)				
11.a.	Spoiler operation	X	X	X	X
11.b.	Reverse thrust operation	X	X	X	X
11.c.	Directional control and ground handling, both with and without reverse thrust		X	X	X
11.d.	Reduction of rudder effectiveness with increased reverse thrust (rear pod-mounted engines)		X	X	X
11.e.	Brake and anti-skid operation with dry, patchy wet, wet on rubber residue, and patchy icy conditions			X	X
11.f.	Brake operation, to include auto-braking system where applicable	X	X	X	X
12.	Any Flight Phase				
12.a.	Airplane and engine systems operation.				
12.a.1.	Air conditioning and pressurization (ECS)	X	X	X	X
12.a.2.	De-icing/anti-icing	X	X	X	X
12.a.3.	Auxiliary power unit (APU)	X	X	X	X
12.a.4.	Communications	X	X	X	X
12.a.5.	Electrical	X	X	X	X
12.a.6.	Fire and smoke detection and suppression	X	X	X	X
12.a.7.	Flight controls (primary and secondary)	X	X	X	X
12.a.8.	Fuel and oil, hydraulic and pneumatic	X	X	X	X
12.a.9.	Landing gear	X	X	X	X
12.a.10.	Oxygen	X	X	X	X
12.a.11.	Engine	X	X	X	X
12.a.12.	Airborne radar	X	X	X	X
12.a.13.	Autopilot and Flight Director	X	X	X	X
12.a.14.	Collision avoidance systems. (e.g., (E)GPWS, TCAS)	X	X	X	X
12.a.15.	Flight control computers including stability and control augmentation	X	X	X	X
12.a.16.	Flight display systems	X	X	X	X
12.a.17.	Flight management computers	X	X	X	X
12.a.18.	Head-up guidance, head-up displays	X	X	X	X
12.a.19.	Navigation systems	X	X	X	X
12.a.20.	Stall warning/avoidance	X	X	X	X
12.a.21.	Wind shear avoidance equipment	X	X	X	X

TABLE A3A.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

Number	Operation tasks	Simulator level			
		A	B	C	D
<<<QPS requirements>>>					
12.a.22.	Automatic landing aids	X	X	X	X
12.b.	Airborne procedures				
12.b.1.	Holding	X	X	X	X
12.b.2.	Air hazard avoidance. (Traffic, Weather)			X	X
12.b.3.	Windshear			X	X
12.b.4.	Effects of airframe ice			X	X
12.c.	Engine shutdown and parking				
12.c.1.	Engine and systems operation	X	X	X	X
12.c.2.	Parking brake operation	X	X	X	X

TABLE A3B.—FUNCTIONS AND SUBJECTIVE TESTS—VISUAL SCENE CONTENT FOR QUALIFICATION AT THE STATED LEVEL

Number	Class I visual scenes/visual models	Simulator level			
		A	B	C	D
This table specifies the minimum airport visual model content and functionality to qualify a simulator at the indicated level. This table applies only to the airport scenes required for simulator qualification; i.e., one airport scene for Level A and Level B simulators; three airport scenes for Level C and Level D simulators.					
Begin QPS Requirements					
1.	Functional test content requirements for Level A and Level B simulators. The following is the minimum airport model content requirement to satisfy visual capability tests, and provides suitable visual cues to allow completion of all functions and subjective tests described in this attachment for simulators at Levels A and B.				
1.a.	A minimum of one (1) representative airport model. This model identification must be acceptable to the sponsor's TPAA, selectable from the IOS, and listed on the Statement of Qualification.	X	X		
1.b.	The fidelity of the visual scene must be sufficient for the aircrew to visually identify the airport; determine the position of the simulated airplane within a night visual scene; successfully accomplish take-offs, approaches, and landings; and maneuver around the airport on the ground as necessary.	X	X		
1.c.	Runways:	X	X		
1.c.1.	Visible runway number	X	X		
1.c.2.	Runway threshold elevations and locations must be modeled to provide sufficient correlation with airplane systems (e.g., altimeter).	X	X		
1.c.3.	Runway surface and markings	X	X		
1.c.4.	Lighting for the runway in use including runway edge and centerline	X	X		
1.c.5.	Lighting, visual approach aid and approach lighting of appropriate colors	X	X		
1.c.6.	Representative taxiway lights	X	X		
2.	Functional test content requirements for Level C and Level D simulators. The following is the minimum airport model content requirement to satisfy visual capability tests, and provide suitable visual cues to allow completion of all functions and subjective tests described in this attachment for simulators at Levels C and D. Not all of the elements described in this section must be found in a single airport scene. However, all of the elements described in this section must be found throughout a combination of the three (3) airport models described in item 2.a.				
2.a.	A minimum of three (3) representative airport models. The model identifications must be acceptable to the sponsor's TPAA, selectable from the IOS, and listed on the Statement of Qualification.			X	X
2.a.1.	Night and Twilight (Dusk) scenes required			X	X

TABLE A3B.—FUNCTIONS AND SUBJECTIVE TESTS—VISUAL SCENE CONTENT FOR QUALIFICATION AT THE STATED LEVEL—Continued

Number	Class I visual scenes/visual models	Simulator level			
		A	B	C	D
2.a.2.	Daylight scenes required				X
2.b.	Two parallel runways and one crossing runway, displayed simultaneously; at least two of the runways must be able to be lighted fully and simultaneously. NOTE: This requirement may be demonstrated at either a fictional airport or a real-world airport. However, if a fictional airport is used, this airport must be listed on the Statement of Qualification.			X	X
2.c.	Runway threshold elevations and locations must be modeled to provide sufficient correlation with airplane systems (e.g., HGS, GPS, altimeter); slopes in runways, taxiways, and ramp areas must not cause distracting or unrealistic effects, including pilot eye-point height variation.			X	X
2.d.	Representative airport buildings, structures and lighting			X	X
2.e.	At least one useable gate, at the appropriate height (required only for those airplanes that typically operate from terminal gates).			X	X
2.f.	Representative moving and static gate clutter (e.g., other airplane, power carts, tugs, fuel trucks, and additional gates).			X	X
2.g.	Representative gate/apron markings (e.g., hazard markings, lead-in lines, gate numbering) and lighting			X	X
2.h.	Representative runway markings, lighting, and signage, including a windsock that gives appropriate wind cues.			X	X
2.i.	Representative taxiway markings, lighting, and signage necessary for position identification, and to taxi from parking to a designated runway and return to parking.			X	X
2.j.	A low visibility taxi route (e.g., Surface Movement Guidance Control System, follow-me truck, daylight taxi lights) must also be demonstrated.				X
2.k.	Representative moving and static ground traffic (e.g., vehicular and airplane), including the capability to present ground hazards (e.g., another airplane crossing the active runway).			X	X
2.l.	Representative moving airborne traffic, including the capability to present air hazards (e.g., airborne traffic on a possible collision course).			X	X
2.m.	Representative depiction of terrain and obstacles as well as significant and identifiable natural and cultural features, within 25 NM of the reference airport.			X	X
2.n.	Appropriate approach lighting systems and airfield lighting for a VFR circuit and landing, non-precision approaches and landings, and Category I, II and III precision approaches and landings.			X	X
2.o.	Representative gate docking aids or a marshaller			X	X
2.p.	Portrayal of physical relationships known to cause landing illusions (e.g., short runways, landing approaches over water, uphill or downhill runways, rising terrain on the approach path).This requirement may be met by a Statement of Compliance and Capability (SOC) and a demonstration of two landing illusions. The illusions are not required to be beyond the normal operational capabilities of the airplane being simulated. The demonstrated illusions must be available to the instructor or check airman at the IOS for training, testing, checking, or experience activities.				X
2.q.	Portrayal of runway surface contaminants, including runway lighting reflections when wet and partially obscured lights when snow is present, or suitable alternative effects.				X
3.	Visual scene management. The following are the minimum visual scene management requirements for simulators at Levels A, B, C, and D.				
3.a.	Runway and approach lighting must fade into view in accordance with the environmental conditions set in the simulator, and the distance from the object.	X	X	X	X
3.b.	The direction of strobe lights, approach lights, runway edge lights, visual landing aids, runway centerline lights, threshold lights, and touchdown zone lights must be replicated.	X	X	X	X
4.	Visual feature recognition. The following are the minimum distances at which runway features must be visible for simulators at Levels A, B, C, and D. Distances are measured from runway threshold to an airplane aligned with the runway on an extended 3° glide-slope in simulated meteorological conditions that recreate the minimum distances for visibility. For circling approaches, all tests apply to the runway used for the initial approach and to the runway of intended landing.				

TABLE A3B.—FUNCTIONS AND SUBJECTIVE TESTS—VISUAL SCENE CONTENT FOR QUALIFICATION AT THE STATED LEVEL—Continued

Number	Class I visual scenes/visual models	Simulator level			
		A	B	C	D
4.a.	Runway definition, strobe lights, approach lights, and runway edge white lights from 5 sm (8 km) of the runway threshold.	X	X	X	X
4.b.	Visual Approach Aid lights (VASI or PAPI) from 5 sm (8 km) of the runway threshold			X	X
4.c.	Visual Approach Aid lights (VASI or PAPI) from 3 sm (5 km) of the runway threshold	X	X		
4.d.	Runway centerline lights and taxiway definition from 3 sm (5 km)	X	X	X	X
4.e.	Threshold lights and touchdown zone lights from 2 sm (3 km)	X	X	X	X
4.f.	Runway markings within range of landing lights for night scenes as required by the surface resolution test on day scenes.	X	X	X	X
4.g.	For circling approaches, the runway of intended landing and associated lighting should fade into view in a non-distracting manner.	X	X	X	X
5.	Airport model content. The following sets out the minimum requirements for what must be provided in an airport visual model and also identifies the other aspects of the airport environment that must correspond with that model for simulators at Levels A, B, C, and D. For circling approaches, all tests apply to the runway used for the initial approach and to the runway of intended landing. If all runways in an airport model used to meet the requirements of this attachment are not designated as ''in use,'' then the ''in use'' runways must be listed on the Statement of Qualification (e.g., KORD, Rwys 9R, 14L, 22R). Models of airports with more than one runway must have all significant runways not ''in-use'' visually depicted for airport and runway recognition purposes. The use of white or off white light strings that identify the runway threshold, edges, and ends for twilight and night scenes are acceptable for this requirement. Rectangular surface depictions are acceptable for daylight scenes. A visual system's capabilities must be balanced between providing airport models with an accurate representation of the airport and a realistic representation of the surrounding environment.				
5.a.	The surface and markings for each ''in-use'' runway must include the following:				
5.a.1.	Threshold markings	X	X	X	X
5.a.2.	Runway numbers	X	X	X	X
5.a.3.	Touchdown zone markings	X	X	X	X
5.a.4.	Fixed distance markings	X	X	X	X
5.a.5.	Edge markings	X	X	X	X
5.a.6.	Centerline stripes	X	X	X	X
5.b.	Each runway designated as an ''in-use'' runway must include the following detail that is either modeled using airport pictures, construction drawings and maps, U.S. National Imagery and Mapping Agency, or other data, or modeled in accordance with published regulatory material. Sponsors are not required to provide every detail of a runway, but the detail that is provided should be correct within reasonable limits				
5.b.1.	The lighting for each ''in-use'' runway must include the following:				
	(i) Threshold lights	X	X	X	X
	(ii) Edge lights	X	X	X	X
	(iii) End lights	X	X	X	X
	(iv) Centerline lights, if appropriate	X	X	X	X
	(v) Touchdown zone lights, if appropriate	X	X	X	X
	(vi) Leadoff lights, if appropriate	X	X	X	X
	(vii) Appropriate visual landing aid(s) for that runway	X	X	X	X
	(viii) Appropriate approach lighting system for that runway	X	X	X	X
5.b.2.	The taxiway surface and markings associated with each ''in-use'' runway must include the following:				
	(i) Edge	X	X	X	X

TABLE A3B.—FUNCTIONS AND SUBJECTIVE TESTS—VISUAL SCENE CONTENT FOR QUALIFICATION AT THE STATED LEVEL—Continued

Number	Class I visual scenes/visual models	Simulator level			
		A	B	C	D
	(ii) Centerline	X	X	X	X
	(iii) Runway hold lines	X	X	X	X
	(iv) ILS critical area marking	X	X	X	X
5.b.3.	The taxiway lighting associated with each ''in-use'' runway must include the following:				
	(i) Edge	X	X	X	
	(ii) Centerline, if appropriate	X	X	X	X
	(iii) Runway hold and ILS critical area lights	X	X	X	X
	(iv) Edge lights of correct color				X
5.b.4.	Airport signage associated with each ''in-use'' runway must include the following:				
	(i) Distance remaining signs, if appropriate	X	X	X	X
	(ii) Signs at intersecting runways and taxiways	X	X	X	X
	(iii) Signs described in items ''2h'' and ''2i'' of this table	X	X	X	X
5.b.5.	Required visual model correlation with other aspects of the airport environment simulation:				
	(i) The airport model must be properly aligned with the navigational aids that are associated with operations at the runway ''in-use''.	X	X	X	X
	(ii) The simulation of runway contaminants must be correlated with the displayed runway surface and lighting where applicable.				X
6.	Correlation with airplane and associated equipment.The following are the minimum correlation comparisons that must be made for simulators at Levels A, B, C, and D.				
6.a.	Visual system compatibility with aerodynamic programming	X	X	X	X
6.b.	Visual cues to assess sink rate and depth perception during landings	X	X	X	X
6.c.	Accurate portrayal of environment relating to flight simulator attitudes	X	X	X	X
6.d.	The visual scene must correlate with integrated airplane systems, where fitted (e.g. terrain, traffic and weather avoidance systems and Head-up Guidance System (HGS)).	X	X	X	X
6.e.	Representative visual effects for each visible, own-ship, airplane external light(s)	X	X	X	X
6.f.	The effect of rain removal devices				X
7.	Scene quality. The following are the minimum scene quality tests that must be conducted for simulators at Levels A, B, C, and D.				
7.a.	Surfaces and textural cues must be free from apparent quantization (aliasing)			X	X
7.b.	System capable of portraying full color realistic textural cues			X	X
7.c.	The system light points must be free from distracting jitter, smearing or streaking	X	X	X	X
7.d.	Demonstration of occulting through each channel of the system in an operational scene	X	X		
7.e.	Demonstration of a minimum of ten levels of occulting through each channel of the system in an operational scene.			X	X
7.f.	System capable of providing focus effects that simulate rain				X
7.g.	System capable of providing focus effects that simulate light point perspective growth			X	X
7.h.	System capable of six discrete light step controls (0–5)	X	X	X	X
8.	Environmental effects. The following are the minimum environmental effects that must be available in simulators at Levels A, B, C, and D.				

TABLE A3B.—FUNCTIONS AND SUBJECTIVE TESTS—VISUAL SCENE CONTENT FOR QUALIFICATION AT THE STATED LEVEL—Continued

Number	Class I visual scenes/visual models	Simulator level			
		A	B	C	D
8.a.	The displayed scene corresponding to the appropriate surface contaminants and including runway lighting reflections for wet, partially obscured lights for snow, or alternative effects.				X
8.a.1.	Special weather representations which include:				
	(i) The sound, motion and visual effects of light, medium and heavy precipitation near a thunderstorm on take-off, approach, and landings at and below an altitude of 2,000 ft (600 m) above the airport surface and within a radius of 10 sm (16 km) from the airport.				X
	(ii) One airport with a snow scene to include terrain snow and snow-covered taxiways and runways				X
8.b.	In-cloud effects such as variable cloud density, speed cues and ambient changes			X	X
8.c.	The effect of multiple cloud layers representing few, scattered, broken and overcast conditions giving partial or complete obstruction of the ground scene.			X	X
8.d.	Visibility and RVR measured in terms of distance. Visibility/RVR checked at 2,000 ft (600 m) above the airport and at two heights below 2000ft with at least 500 ft. of separation between the measurements. The measurements must be taken within a radius of 10 sm (16 km) from the airport.	X	X	X	X
8.e.	Patchy fog giving the effect of variable RVR				X
8.f.	Effects of fog on airport lighting such as halos and defocus			X	X
8.g.	Effect of own-ship lighting in reduced visibility, such as reflected glare, including landing lights, strobes, and beacons.			X	X
8.h.	Wind cues to provide the effect of blowing snow or sand across a dry runway or taxiway selectable from the instructor station.				X
9.	Instructor control of the following: The following are the minimum instructor controls that must be available in simulators at Levels A, B, C, and D.				
9.a.	Environmental effects, e.g., cloud base, cloud effects, cloud density, visibility in statute miles/ kilometers and RVR in feet/meters.	X	X	X	X
9.b.	Airport selection	X	X	X	X
9.c.	Airport lighting, including variable intensity	X	X	X	X
9.d.	Dynamic effects including ground and flight traffic			X	X
End QPS Requirement					
Begin Information					
10.	An example of being able to ''combine two airport models to achieve two ''in-use'' runways: One runway designated as the ''in use'' runway in the first model of the airport, and the second runway designated as the ''in use'' runway in the second model of the same airport. For example, the clearance is for the ILS approach to Runway 27, Circle to Land on Runway 18 right. Two airport visual models might be used: the first with Runway 27 designated as the ''in use'' runway for the approach to runway 27, and the second with Runway 18 Right designated as the ''in use'' runway. When the pilot breaks off the ILS approach to runway 27, the instructor may change to the second airport visual model in which runway 18 Right is designated as the ''in use'' runway, and the pilot would make a visual approach and landing. This process is acceptable to the FAA as long as the temporary interruption due to the visual model change is not distracting to the pilot.				
11.	Sponsors are not required to provide every detail of a runway, but the detail that is provided should be correct within reasonable limits.				
End Information					

TABLE A3C.—FUNCTIONS AND SUBJECTIVE TESTS

Visual Scene Content; Additional Visual Models Beyond Minimum Required for Qualification					
Number	Class II visual scenes/visual models	Simulator level			
		A	B	C	D
This table specifies the minimum airport visual model content and functionality necessary to add airport visual models to a simulator's visual model library, beyond those necessary for qualification at the stated level, without the necessity of further involvement of the NSPM or TPAA.					
	Begin QPS Requirements				
1.	Visual scene management. The following is the minimum visual scene management requirements for simulators at Levels A, B, C, and D.				
1.a.	The direction of strobe lights, approach lights, runway edge lights, visual landing aids, runway centerline lights, threshold lights, and touchdown zone lights on the ''in-use'' runway must be replicated.	X	X	X	X
2.	Visual feature recognition. The following are the minimum distances at which runway features must be visible for simulators at Levels A, B, C, and D. Distances are measured from runway threshold to an airplane aligned with the runway on an extended 3° glide-slope in simulated meteorological conditions that recreate the minimum distances for visibility. For circling approaches, all requirements of this section apply to the runway used for the initial approach and to the runway of intended landing.				
2.a.	Runway definition, strobe lights, approach lights, and runway edge white lights from 5 sm (8 km) from the runway threshold.	X	X	X	X
2.b.	Visual Approach Aid lights (VASI or PAPI) from 5 sm (8 km) from the runway threshold			X	X
2.c.	Visual Approach Aid lights (VASI or PAPI) from 3 sm (5 km) from the runway threshold	X	X		
2.d.	Runway centerline lights and taxiway definition from 3 sm (5 km) from the runway threshold	X	X	X	X
2.e.	Threshold lights and touchdown zone lights from 2 sm (3 km) from the runway threshold	X	X	X	X
2.f.	Runway markings within range of landing lights for night scenes and as required by the surface resolution requirements on day scenes.	X	X	X	X
2.g.	For circling approaches, the runway of intended landing and associated lighting must fade into view in a non-distracting manner.	X	X	X	X
3.	Airport model content. The following prescribes the minimum requirements for what must be provided in an airport visual model and identifies other aspects of the airport environment that must correspond with that model for simulators at Levels A, B, C, and D. The detail must be modeled using airport pictures, construction drawings and maps, or other data, or modeled in accordance with published regulatory material; however, this does not require that airport models contain details that are beyond the designed capability of the currently qualified visual system. For circling approaches, all requirements of this section apply to the runway used for the initial approach and to the runway of intended landing.				
3.a.	The surface and markings for each ''in-use'' runway:				
3.a.1. ...	Threshold markings	X	X	X	X
3.a.2. ...	Runway numbers	X	X	X	X
3.a.3. ...	Touchdown zone markings	X	X	X	X
3.a.4. ...	Fixed distance markings	X	X	X	X
3.a.5. ...	Edge markings	X	X	X	X
3.a.6. ...	Centerline stripes	X	X	X	X
3.b	The lighting for each ''in-use'' runway:				
3.b.1. ...	Threshold lights	X	X	X	X
3.b.2. ...	Edge lights	X	X	X	X
3.b.3. ...	End lights	X	X	X	X
3.b.4. ...	Centerline lights	X	X	X	X
3.b.5. ...	Touchdown zone lights, if appropriate	X	X	X	X
3.b.6. ...	Leadoff lights, if appropriate	X	X	X	X
3.b.7. ...	Appropriate visual landing aid(s) for that runway	X	X	X	X

TABLE A3C.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

Visual Scene Content; Additional Visual Models Beyond Minimum Required for Qualification					
Number	Class II visual scenes/visual models	Simulator level			
		A	B	C	D
3.b.8. ...	Appropriate approach lighting system for that runway	X	X	X	X
3.c.	The taxiway surface and markings associated with each ''in-use'' runway:				
3.c.1.	Edge	X	X	X	X
3.c.2.	Centerline	X	X	X	X
3.c.3.	Runway hold lines	X	X	X	X
3.c.4.	ILS critical area markings	X	X	X	X
3.d.	The taxiway lighting associated with each ''in-use'' runway:				
3.d.1. ...	Edge			X	X
3.d.2. ...	Centerline	X	X	X	X
3.d.3. ...	Runway hold and ILS critical area lights	X	X	X	X
4.	Required visual model correlation with other aspects of the airport environment simulation. The following are the minimum visual model correlation tests that must be conducted for simulators at Levels A, B, C, and D.				
4.a.	The airport model must be properly aligned with the navigational aids that are associated with operations at the ''in-use'' runway.	X	X	X	X
4.b.	Slopes in runways, taxiways, and ramp areas must not cause distracting or unrealistic effects	X	X	X	X
5.	Correlation with airplane and associated equipment. The following are the minimum correlation comparisons that must be made for simulators at Levels A, B, C, and D.				
5.a.	Visual system compatibility with aerodynamic programming	X	X	X	X
5.b.	Accurate portrayal of environment relating to flight simulator attitudes	X	X	X	X
5.c.	Visual cues to assess sink rate and depth perception during landings		X	X	X
5.d.	Visual effects for each visible, own-ship, airplane external light(s)		X	X	X
6.	Scene quality. The following are the minimum scene quality tests that must be conducted for simulators at Levels A, B, C, and D.				
6.a.	Surfaces and textural cues should be free from apparent quantization (aliasing)			X	X
6.b.	Correct color and realistic textural cues				X
6.c.	Light points free from distracting jitter, smearing or streaking	X	X	X	X
7.	Instructor controls of the following: The following are the minimum instructor controls that must be available in simulators at Levels A, B, C, and D.				
7.a.	Environmental effects, e.g., cloud base (if used), cloud effects, cloud density, visibility in statute miles/kilometers and RVR in feet/meters.	X	X	X	X
7.b.	Airport selection	X	X	X	X
7.c.	Airport lighting including variable intensity	X	X	X	X
7.d.	Dynamic effects including ground and flight traffic			X	X
End QPS Requirements					
Begin Information					
8.	Sponsors are not required to provide every detail of a runway, but the detail that is provided must be correct within the capabilities of the system.	X	X	X	X
End Information					

TABLE A3D.—FUNCTIONS AND SUBJECTIVE TESTS

<<<QPS requirements>>>						
Number	Motion system effects	Simulator level				Information
		A	B	C	D	
This table specifies motion effects that are required to indicate when a flight crewmember must be able to recognize an event or situation. Where applicable, flight simulator pitch, side loading and directional control characteristics must be representative of the airplane						
1.	Runway rumble, oleo deflection, ground speed, uneven runway, runway and taxiway centerline light characteristics: Procedure: After the airplane has been pre-set to the takeoff position and then released, taxi at various speeds with a smooth runway and note the general characteristics of the simulated runway rumble effects of oleo deflections. Repeat the maneuver with a runway roughness of 50%, then with maximum roughness. The associated motion vibrations should be affected by ground speed and runway roughness.		X	X	X	If time permits, different gross weights can also be selected, which may also affect the associated vibrations depending on airplane type. The associated motion effects for the above tests should also include an assessment of the effects of rolling over centerline lights, surface discontinuities of uneven runways, and various taxiway characteristics.
2.	Buffets on the ground due to spoiler/speedbrake extension and reverse thrust: Procedure: Perform a normal landing and use ground spoilers and reverse thrust—either individually or in combination—to decelerate the simulated airplane. Do not use wheel braking so that only the buffet due to the ground spoilers and thrust reversers is felt.		X	X	X	
3.	Bumps associated with the landing gear: Procedure: Perform a normal take-off paying special attention to the bumps that could be perceptible due to maximum oleo extension after lift-off. When the landing gear is extended or retracted, motion bumps can be felt when the gear locks into position.		X	X	X	
4.	Buffet during extension and retraction of landing gear: Procedure: Operate the landing gear. Check that the motion cues of the buffet experienced represent the actual airplane.		X	X	X	
5.	Buffet in the air due to flap and spoiler/speedbrake extension and approach to stall buffet: Procedure: Perform an approach and extend the flaps and slats with airspeeds deliberately in excess of the normal approach speeds. In cruise configuration, verify the buffets associated with the spoiler/speedbrake extension. The above effects can also be verified with different combinations of spoiler/speedbrake, flap, and landing gear settings to assess the interaction effects.		X	X	X	
6.	Approach to stall buffet: Procedure: Conduct an approach-to-stall with engines at idle and a deceleration of 1 knot/second. Check that the motion cues of the buffet, including the level of buffet increase with decreasing speed, are representative of the actual airplane.		X	X	X	
7.	Touchdown cues for main and nose gear: Procedure: Conduct several normal approaches with various rates of descent. Check that the motion cues for the touchdown bumps for each descent rate are representative of the actual airplane.		X	X	X	
8.	Nose wheel scuffing: Procedure: Taxi at various ground speeds and manipulate the nose wheel steering to cause yaw rates to develop that cause the nose wheel to vibrate against the ground (“scuffing”). Evaluate the speed/nose wheel combination needed to produce scuffing and check that the resultant vibrations are representative of the actual airplane.		X	X	X	

TABLE A3D.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Motion system effects	Simulator level				Information
		A	B	C	D	
9.	Thrust effect with brakes set: Procedure: Set the brakes on at the take-off point and increase the engine power until buffet is experienced. Evaluate its characteristics. Confirm that the buffet increases appropriately with increasing engine thrust.		X	X	X	This effect is most discernible with wing-mounted engines.
10.	Mach and maneuver buffet: Procedure: With the simulated airplane trimmed in 1 g flight while at high altitude, increase the engine power so that the Mach number exceeds the documented value at which Mach buffet is experienced. Check that the buffet begins at the same Mach number as it does in the airplane (for the same configuration) and that buffet levels are representative of the actual airplane. For certain airplanes, maneuver buffet can also be verified for the same effects. Maneuver buffet can occur during turning flight at conditions greater than 1 g, particularly at higher altitudes.		X	X	X	
11.	Tire failure dynamics: Procedure: Simulate a single tire failure and a multiple tire failure.			X	X	The pilot may notice some yawing with a multiple tire failure selected on the same side. This should require the use of the rudder to maintain control of the airplane. Dependent on airplane type, a single tire failure may not be noticed by the pilot and should not have any special motion effect. Sound or vibration may be associated with the actual tire losing pressure.
12.	Engine malfunction and engine damage: Procedure: The characteristics of an engine malfunction as stipulated in the malfunction definition document for the particular flight simulator must describe the special motion effects felt by the pilot. The associated engine instruments should vary according to the nature of the malfunction and replicate the effects of the airframe vibration.		X	X	X	
13.	Tail strikes and engine pod strikes: Procedure: Tail-strikes can be checked by over-rotation of the airplane at a speed below Vr while performing a takeoff. The effects can also be verified during a landing. The motion effect should be felt as a noticeable bump. If the tail strike affects the airplane angular rates, the cueing provided by the motion system should have an associated effect. Excessive banking of the airplane during its take-off/landing roll can cause a pod strike. The motion effect should be felt as a noticeable bump. If the pod strike affects the airplane angular rates, the cueing provided by the motion system should have an associated effect.		X	X	X	

TABLE A3E.—FUNCTIONS AND SUBJECTIVE TESTS

<<<QPS requirements>>>

Number	Sound system	Simulator level			
		A	B	C	D
	The following checks are performed during a normal flight profile with motion system ON.				
1.	Precipitation			X	X
2.	Rain removal equipment			X	X
3.	Significant airplane noises perceptible to the pilot during normal operations			X	X

TABLE A3E.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Sound system	Simulator level			
		A	B	C	D
4.	Abnormal operations for which there are associated sound cues including, engine malfunctions, landing gear/tire malfunctions, tail and engine pod strike and pressurization malfunction.			X	X
5.	Sound of a crash when the flight simulator is landed in excess of limitations			X	X

TABLE A3F.—FUNCTIONS AND SUBJECTIVE TESTS

<<<QPS requirements>>>

Number	Sound effects	Simulator level			
		A	B	C	D
	This table specifies the minimum special effects necessary for the specified simulator level.				
1.	Braking Dynamics: Representations of the dynamics of brake failure (flight simulator pitch, side-loading, and directional control characteristics representative of the airplane), including antiskid and decreased brake efficiency due to high brake temperatures (based on airplane related data), sufficient to enable pilot identification of the problem and implementation of appropriate procedures.			X	X
2.	Effects of Airframe and Engine Icing: Required only for those airplanes authorized for operations in known icing conditions ..... Procedure: With the simulator airborne, in a clean configuration, nominal altitude and cruise airspeed, autopilot on and auto-throttles off, engine and airfoil anti-ice/de-ice systems deactivated; activate icing conditions at a rate that allows monitoring of simulator and systems response. Icing recognition will include an increase in gross weight, airspeed decay, change in simulator pitch attitude, change in engine performance indications (other than due to airspeed changes), and change in data from pitot/static system. Activate heating, anti-ice, or de-ice systems independently. Recognition will include proper effects of these systems, eventually returning the simulated airplane to normal flight.			X	X

TABLE A3G.—FUNCTIONS AND SUBJECTIVE TESTS

<<<OPS requirements>>>

Number	Instructor operating station (IOS) (as appropriate)	Simulator level			
		A	B	C	D
	Functions in this table are subject to evaluation only if appropriate for the airplane and/or the system is installed on the specific simulator				
1.	Simulator Power Switch(es)	X	X	X	X
2.	Airplane conditions				
2.a.	Gross weight, center of gravity, fuel loading and allocation	X	X	X	X
2.b.	Airplane systems status	X	X	X	X
2.c.	Ground crew functions (e.g., ext. power, push back)	X	X	X	X
3.	Airports				
3.a.	Number and selection	X	X	X	X
3.b.	Runway selection	X	X	X	X
3.c.	Runway surface condition (e.g., rough, smooth, icy, wet)			X	X
3.d.	Preset positions (e.g., ramp, gate, #1 for takeoff, takeoff position, over FAF)	X	X	X	X
3.e.	Lighting controls	X	X	X	X
4.	Environmental controls				
4.a	Visibility (statute miles (kilometers))	X	X	X	X

TABLE A3G.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<OPS requirements>>>

Number	Instructor operating station (IOS) (as appropriate)	Simulator level			
		A	B	C	D
4.b.	Runway visual range (in feet (meters))	X	X	X	X
4.c.	Temperature	X	X	X	X
4.d.	Climate conditions (e.g., ice, snow, rain)	X	X	X	X
4.e.	Wind speed and direction	X	X	X	X
4.f.	Windshear			X	X
4.g.	Clouds (base and tops)	X	X	X	X
5.	Airplane system malfunctions (Inserting and deleting malfunctions into the simulator)	X	X	X	X
6.	Locks, Freezes, and Repositioning				
6.a.	Problem (all) freeze/release	X	X	X	X
6.b.	Position (geographic) freeze/release	X	X	X	X
6.c.	Repositioning (locations, freezes, and releases)	X	X	X	X
6.d.	Ground speed control	X	X	X	X
7.	Remote IOS	X	X	X	X
8.	Sound Controls. On/off/adjustment	X	X	X	X
9.	Motion/Control Loading System				
9.a.	On/off/emergency stop	X	X	X	X
9.b.	Crosstalk (motion response in a given degree of freedom not perceptible in other degrees of freedom)	X	X	X	X
9.c.	Smoothness (no perceptible ''turn-around bump'' as the direction of motion reverses with the simulator being ''flown'' normally).	X	X	X	X
10.	Observer Seats/Stations. Position/Adjustment/Positive restraint system	X	X	X	X

Begin Information

1. Introduction

a. The following is an example test schedule for an Initial/Upgrade evaluation that covers the majority of the requirements set out in the Functions and Subjective test requirements. It is not intended that the schedule be followed line by line, rather, the example should be used as a guide for preparing a schedule that is tailored to the airplane, sponsor, and training task.

b. Functions and subjective tests should be planned. This information has been organized as a reference document with the considerations, methods, and evaluation notes for each individual aspect of the simulator task presented as an individual item. In this way the evaluator can design his or her own test plan, using the appropriate sections to provide guidance on method and evaluation criteria. Two aspects should be present in any test plan structure:

(1) An evaluation of the simulator to determine that it replicates the aircraft and performs reliably for an uninterrupted period equivalent to the length of a typical training session.

(2) The simulator should be capable of operating reliably after the use of training device functions such as repositions or malfunctions.

c. A detailed understanding of the training task will naturally lead to a list of objectives that the simulator should meet. This list will form the basis of the test plan. Additionally, once the test plan has been formulated, the initial conditions and the evaluation criteria should be established. The evaluator should consider all factors that may have an influence on the characteristics observed during particular training tasks in order to make the test plan successful.

2. Events

a. Initial Conditions.
(1) Airport.
(2) QNH.
(3) Temperature.
(4) Wind/Crosswind.
(5) Zero Fuel Weight /Fuel /Gross Weight /Center of Gravity.

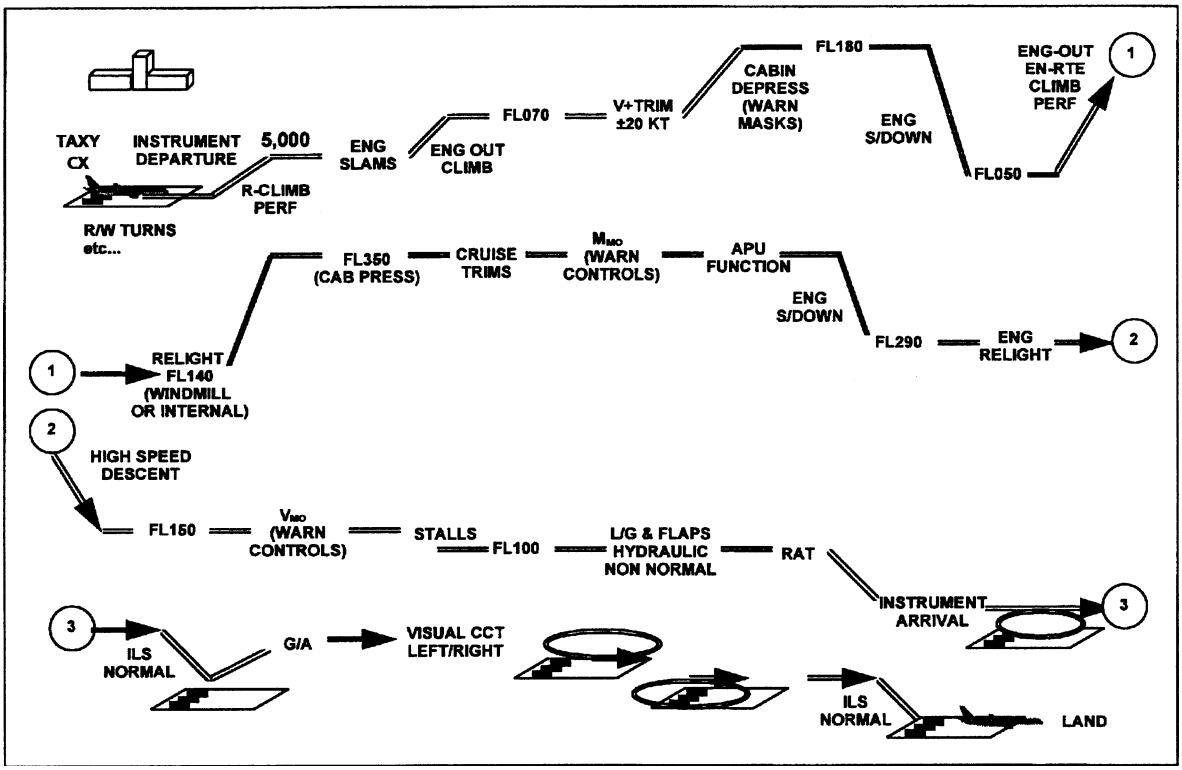
b. Initial Checks.
(1) Documentation of Simulator.
(a) Simulator Acceptance Test Manuals.
(b) Simulator Approval Test Guide.
(c) Technical Logbook Open Item List.
(d) Daily Functional Pre-flight Check.
(2) Documentation of User/Carrier Flight Logs.
(a) Simulator Operating/Instructor Manual.
(b) Difference List (Aircraft/Simulator).
(c) Flight Crew Operating Manuals.
(d) Performance Data for Different Fields.
(e) Crew Training Manual.
(f) Normal/Abnormal/Emergency Checklists.
(3) Simulator External Checks.
(a) Appearance and Cleanliness.
(b) Stairway/Access Bridge.
(c) Emergency Rope Ladders.
(d) ''Motion On''/''Flight in Progress'' Lights.
(4) Simulator Internal Checks.
(a) Cleaning/Disinfecting Towels (for cleaning oxygen masks).
(b) Flight deck Layout (compare with difference list).
(5) Equipment.
(a) Quick Donning Oxygen Masks.
(b) Head Sets.
(c) Smoke Goggles.

(d) Sun Visors.
(e) Escape Rope.
(f) Chart Holders.
(g) Flashlights.
(h) Fire Extinguisher (inspection date).
(i) Crash Axe.
(j) Gear Pins.
c. Power Supply And APU Start Checks.
(1) Batteries and Static Inverter.
(2) APU Start with Battery.
(3) APU Shutdown using Fire Handle.
(4) External Power Connection.
(5) APU Start with External Power.
(6) Abnormal APU Start/Operation.
d. Flight deck Checks.
(1) Flight deck Preparation Checks.
(2) FMC Programming.
(3) Communications and Navigational Aids Checks.
e. Engine Start.
(1) Before Start Checks.
(2) Battery start with Ground Air Supply Unit.
(3) Engine Crossbleed Start.
(4) Normal Engine Start.
(5) Abnormal Engine Starts.
(6) Engine Idle Readings.
(7) After Start Checks.
f. Taxi Checks.
(1) Pushback/Powerback.
(2) Taxi Checks.
(3) Ground Handling Check:
(a) Power required to initiate ground roll.
(b) Thrust response.
(c) Nose Wheel and Pedal Steering.
(d) Nosewheel Scuffing.
(e) Perform 180 degree turns.
(f) Brakes Response and Differential Braking using Normal, Alternate and Emergency.
(g) Brake Systems.
(h) Eye height and fore/aft position.
(4) Runway Roughness.
g. Visual Scene—Ground Assessment.
Select 3 different visual models and perform the following checks with Day, Dusk and Night selected, as appropriate:
(1) Visual Controls.
(a) Daylight, Dusk, Night Scene Controls.
(b) Flight deck ''Daylight'' ambient lighting.
(c) Environment Light Controls.
(d) Runway Light Controls.
(e) Taxiway Light Controls.
(2) Scene Content.
(a) Ramp area for buildings, gates, airbridges, maintenance ground Equipment, parked aircraft.
(b) Daylight shadows, night time light pools.
(c) Taxiways for correct markings, taxiway/runway, marker boards, CAT I and II/III hold points, taxiway shape/grass areas, taxiway light (positions and colors).
(d) Runways for correct markings, lead-off lights, boards, runway slope, runway light positions, and colors, directionality of runway lights.
(e) Airport environment for correct terrain and, significant features.
(f) Visual scene aliasing, color, and occulting levels.
(3) Ground Traffic Selection.
(4) Environment Effects.
(a) Low cloud scene.
(i) Rain:
(A) Runway surface scene.
(B) Windshield wiper—operation and sound.
(ii) Hail:
(A) Runway surface scene
(B) Windshield wiper—operation and sound.
(b) Lightning/thunder.
(c) Snow/ice runway surface scene.
(d) Fog.
h. Takeoff.
Select one or several of the following test cases:
(1) T/O Configuration Warnings.
(2) Engine Takeoff Readings.
(3) Rejected Takeoff (Dry/Wet/Icy Runway) and check the following:
(a) Autobrake function.
(b) Anti-skid operation.
(c) Motion/visual effects during deceleration.
(d) Record stopping distance (use runway plot or runway lights remaining).
Continue taxiing along the runway while applying brakes and check the following:
(e) Center line lights alternating red/white for 2000 feet/600 meters.
(f) Center line lights all red for 1000 feet/300m.
(g) Runway end, red stop bars.
(h) Braking fade effect.
(i) Brake temperature indications.
(4) Engine Failure between VI and V2
(5) Normal Takeoff:
(a) During ground roll check the following:
(i) Runway rumble.
(ii) Acceleration cues.
(iii) Groundspeed effects.
(iv) Engine sounds.
(v) Nosewheel and rudder pedal steering.
(b) During and after rotation, check the following:
(i) Rotation characteristics.
(ii) Column force during rotation.
(iii) Gear uplock sounds/bumps.
(iv) Effect of slat/flap retraction during climbout
(6) Crosswind Takeoff (check the following):
(a) Tendency to turn into or out of the wind.
(b) Tendency to lift upwind wing as airspeed increase
(7) Windshear during Takeoff (check the following):
(a) Controllable during windshear encounter.
(b) Performance adequate when using correct techniques.
(c) Windshear Indications satisfactory.
(d) Motion cues satisfactory (particularly turbulence).
(8) Normal Takeoff with Control Malfunction
(9) Low Visibility T/O (check the following):
(a) Visual cues.
(b) Flying by reference to instruments.
(c) SID Guidance on LNAV
i. Climb Performance.
Select one or several of the following test cases
(1) Normal Climb—Climb while maintaining recommended speed profile and note fuel, distance and time.
(2) Single Engine Climb—Trim aircraft in a zero wheel climb at V2
Note: Up to 5° bank towards the operating engine(s) is permissible. Climb for 3 minutes and note fuel, distance, and time. Increase speed toward en route climb speed and retract flaps. Climb for 3 minutes and note fuel, distance, and time.
j. Systems Operation During Climb.
Check normal operation and malfunctions as appropriate for the following systems
(1) Air conditioning/Pressurization/Ventilation.
(2) Autoflight.
(3) Communications.
(4) Electrical.
(5) Fuel.
(6) Icing Systems.
(7) Indicating and Recording systems.
(8) Navigation/FMS.
(9) Pneumatics.
k. Cruise Checks.
Select one or several of the following test cases:
(1) Cruise Performance.
(2) High Speed/High Altitude Handling (check the following):
(a) Overspeed warning.
(b) High Speed buffet.
(c) Aircraft control satisfactory.
(d) Envelope limiting functions on Computer Controlled Airplanes.
Reduce airspeed to below level flight buffet onset speed, start a turn, and check the following:
(e) High Speed buffet increases with G loading.
Reduce throttles to idle and start descent, deploy the speedbrake, and check the following:
(f) Speedbrake indications.
(g) Symmetrical deployment.
(h) Airframe buffet.
(i) Aircraft response hands off.
(3) Yaw Damper Operation.
Switch off yaw dampers and autopilot. Initiate a Dutch roll and check the following:
(a) Aircraft dynamics.
(b) Simulator motion effects.
Switch on yaw dampers, re-initiate a Dutch roll and check the following:
(c) Damped aircraft dynamics.
(4) APU Operation.
(5) Engine Gravity Feed.
(6) Engine Shutdown and Driftdown Check: FMC operation Aircraft performance.
(7) Engine Relight.
l. Descent.
Select one of the following test cases:
(1) Normal Descent Descend while maintaining recommended speed profile and note fuel, distance And time.
(2) Cabin Depressurization/Emergency Descent.
m. Medium Altitude Checks.
Select one or several of the following test cases:
(1) High Angle of Attack/Stall. Trim the aircraft at 1.4 Vs, establish 1 kt/sec^2 deceleration rate, and check the following—
(a) System displays/operation satisfactory.
(b) Handling characteristics satisfactory.
(c) Stall and Stick shaker speed.
(d) Buffet characteristics and onset speed.
(e) Envelope limiting functions on Computer Controlled Airplanes.
Recover to straight and level flight and check the following:

(f) Handling characteristics satisfactory.
(2) Turning Flight.
Roll aircraft to left, establish a 30° to 45° bank angle, and check the following:
(a) Stick force required, satisfactory.
(b) Wheel requirement to maintain bank angle.
(c) Slip ball response, satisfactory.
(d) Time to turn 180°.
Roll aircraft from 45° bank one way to 45° bank the opposite direction while maintaining altitude and airspeed—check the following:
(e) Controllability during maneuver.
(3) Degraded flight controls.
(4) Holding Procedure (check the following:)
(a) FMC operation.
(b) Auto pilot auto thrust performance.
(5) Storm Selection (check the following:)
(a) Weather radar controls.
(b) Weather radar operation.
(c) Visual scene corresponds with WXR pattern. (Fly through storm center, and check the following:)
(d) Aircraft enters cloud.
(e) Aircraft encounters representative turbulence.
(f) Rain/hail sound effects evident.
As aircraft leaves storm area, check the following:
(g) Storm effects disappear.
(6) TCAS (check the following:)
(a) Traffic appears on visual display.
(b) Traffic appears on TCAS display(s).
As conflicting traffic approaches, take relevant avoiding action, and check the following:
(c) Visual and TCAS system displays.
n. Approach And Landing.
Select one or several of the following test cases while monitoring flight control and hydraulic systems for normal operation and with malfunctions selected:
(1) Flaps/Gear Normal Operation. Check the following:
(a) Time for extension/retraction.
(b) Buffet characteristics.
(2) Normal Visual Approach and Landing.
Fly a normal visual approach and landing—check the following:
(a) Aircraft handling.
(b) Spoiler operation.
(c) Reverse thrust operation.
(d) Directional control on the ground.
(e) Touchdown cues for main and nose wheel.
(f) Visual cues.
(g) Motion cues.
(h) Sound cues.
(i) Brake and Anti-skid operation.
(3) Flaps/Gear Abnormal Operation or with hydraulic malfunctions.
(4) Abnormal Wing Flaps/Slats Landing.
(5) Manual Landing with Control Malfunction
(a) Aircraft handling.
(b) Aircraft handling.
(c) Radio Aids and instruments.
(d) Visual scene content and cues.
(e) Motion cues.
(f) Sound cues.
(6) Non-precision Approach—All Engines Operating.
(a) Aircraft handling.
(b) Aircraft handling.
(c) Radio Aids and instruments.
(d) Visual scene content and cues.
(e) Motion cues.
(f) Sound cues.
(7) Circling Approach.
(a) Aircraft handling.
(b) Aircraft handling.
(c) Radio Aids and instruments.
(d) Visual scene content and cues.
(e) Motion cues.
(f) Sound cues.
(8) Non-precision Approach—One Engine Inoperative.
(a) Aircraft handling.
(b) Aircraft handling.
(c) Radio Aids and instruments.
(d) Visual scene content and cues.
(e) Motion cues.
(f) Sound cues.
(9) One Engine Inoperative Go-around.
(a) Aircraft handling.
(b) Aircraft handling.
(c) Radio Aids and instruments.
(d) Visual scene content and cues.
(e) Motion cues.
(f) Sound cues.
(10) CAT I Approach and Landing with raw-data ILS.
(a) Aircraft handling.
(b) Aircraft handling.
(c) Radio Aids and instruments.
(d) Visual scene content and cues.
(e) Motion cues.
(f) Sound cues.
(11) CAT I Approach and Landing with Limiting Crosswind.
(a) Aircraft handling.
(b) Aircraft handling.
(c) Radio Aids and instruments.
(d) Visual scene content and cues.
(e) Motion cues.
(f) Sound cues.
(12) CAT I Approach with Windshear. Check the following:
(a) Controllable during windshear encounter.
(b) Performance adequate when using correct techniques.
(c) Windshear indications/warnings.
(d) Motion cues (particularly turbulence).
(13) CAT II Approach and Automatic Go-Around.
(14) CAT Ill Approach and Landing—System Malfunctions.
(15) CAT Ill Approach and Landing—1 Engine Inoperative.
(16) GPWS evaluation.
o. Visual Scene—In-Flight Assessment.
Select three (3) different visual models and perform the following checks with ''day,'' ''dusk,'' and ''night'' (as appropriate) selected. Reposition the aircraft at or below 2000 feet within 10 nm of the airfield. Fly the aircraft around the airport environment and assess control of the visual system and evaluate the visual scene content as described below:
(1) Visual Controls.
(a) Daylight, Dusk, Night Scene Controls.
(b) Flight deck ambient lighting during ''daylight'' conditions.
(c) Environment Light Controls.
(d) Runway Light Controls.
(e) Taxiway Light Controls.
(f) Approach Light Controls.
(2) Scene Content.
(a) Airport environment for correct terrain and significant features.
(b) Runways for correct markings, runway slope, directionality of runway lights.
(c) Visual scene for aliasing, colour, and occulting.
Reposition the aircraft to a long, final approach for an ''ILS runway.'' Select flight freeze when the aircraft is 5-statute miles (sm)/8-kilometers (km) out and on the glide slope. Check the following:
(3) Scene content.
(a) Airfield features.
(b) Approach lights.
(c) Runway definition.
(d) Runway definition.
(e) Runway edge lights and VASI lights.
(f) Strobe lights.
Release flight freeze. Continue flying the approach with NP engaged. Select flight freeze when aircraft is 3 sm/5 km out and on the glide slope. Check the following:
(4) Scene Content.
(a) Runway centerline light.
(b) Taxiway definition and lights.
Release flight freeze and continue flying the approach with A/P engaged. Select flight freeze when aircraft is 2 sm/3 km out and on the glide slope. Check the following:
(5) Scene content.
(a) Runway threshold lights.
(b) Touchdown zone lights.
At 200 ft radio altitude and still on glide slope, select Flight Freeze. Check the following:
(6) Scene content.
(a) Runway markings.
Set the weather to Category I conditions and check the following:
(7) Scene content.
(a) Visual ground segment.
Set the weather to Category II conditions, release Flight Freeze, re-select Flight Freeze at 100 feet radio altitude, and check the following:
(8) Scene content.
(a) Visual ground segment.
Select night/dusk (twilight) conditions and check the following:
(9) Scene content.
(a) Runway markings visible within landing light lobes.
Set the weather to Category III conditions, release Flight Freeze, re-select Flight Freeze at 50 feet radio altitude and check the following:
(10) Scene content.
(a) Visual ground segment.
Set WX to ''missed approach'' conditions, release Flight Freeze, re-select Flight Freeze at 15 feet radio altitude, and check the following:
(11) Scene content.
(a) Visual ground segment.
When on the ground, stop the aircraft. Set 0 feet RVR, ensure strobe/beacon lights are switched on and check the following:
(12) Scene content.
(a) Visual effect of strobe and beacon.
Reposition to final approach, set weather to ''Clear,'' continue approach for an automatic landing, and check the following:
(13) Scene content.
(a) Visual cues during flare to assess sink rate.
(b) Visual cues during flare to assess Depth perception.

(c) Flight deck height above ground.
p. After Landing Operations.
(1) After Landing Checks.
(2) Taxi back to gate. Check the following:
(a) Visual model satisfactory.
(b) Parking brake operation satisfactory.
(3) Shutdown Checks.
q. Crash Function.
(1) Gear-up Crash.
(2) Excessive rate of descent Crash.
(3) Excessive bank angle Crash.

Typical Subjective Continuing Qualification Evaluation Profile (2 hours)



End Information

Attachment 4 to Appendix A to Part 60—Sample Documents

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Title of Sample
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Figure A4B—Attachment: FSTD Information Form
Figure A4C—Sample Qualification Test Guide Cover Page
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BILLING CODE 4910–13–P

Attachment 4 to Appendix A to Part 60—
Figure A4A – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
INFORMATION

Date _____

Edward D. Cook, Ph.D.
Manager, National Simulator Program
Federal Aviation Administration
100 Hartsfield Centre Parkway
Suite 400
Atlanta, GA 30354

Dear Dr. Cook:

RE: Request for Initial/Upgrade Evaluation Date

This is to advise you of our intent to request an (initial or upgrade) evaluation of our (FSTD Manufacturer), (Aircraft Type/Level) Flight Simulation Training Device (FSTD), (FAA ID Number, if previously qualified), located in (City, State) at the (Facility) on (Proposed Evaluation Date). (The proposed evaluation date shall not be more than 180 days following the date of this letter.) The FSTD will be sponsored by (Name of Training Center/Air Carrier), FAA Designator (4 Letter Code). The FSTD will be sponsored as follows: (Select One)

☐ The FSTD will be used within the sponsor's FAA approved training program and placed on the sponsor's Training/Operations Specifications.

☐ The FSTD will be used for dry lease only.

We agree to provide the formal request for the evaluation to your staff as follows: (check one)

☐ For QTG tests run at the factory, not later, than 45 days prior to the proposed evaluation date with the additional "l/3 on-site" tests provided not later than 14 days prior to the proposed evaluation date.

☐ For QTG tests run on-site, not later than 30 days prior to the proposed evaluation date.

We understand that the formal request will contain the following documents:

1. Sponsor's Letter of Request (*Company Compliance Letter*).
2. Principal Operations Inspector (POI) or Training Center Program Manager's (TCPM) endorsement.
3. Complete QTG.

If we are unable to meet the above requirements, we understand this may result in a significant delay, perhaps 45 days or more, in rescheduling and completing the evaluation.

(The sponsor should add additional comments as necessary).

Please contact (Name Telephone and Fax Number of Sponsor's Contact) to confirm the date for this initial evaluation. We understand a member of your National Simulator Program staff will respond to this request within 14 days.

A copy of this letter of intent has been provided to (Name), the Principal Operations Inspector (POI) and/or Training Center Program Manager (TCPM).

Attachment 4 to Appendix A to Part 60—
Figure A4A – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
INFORMATION

Sincerely,

Attachment: FSTD Information Form
cc: POI/TCPM

Attachment 4 to Appendix A to Part 60—
Figure A4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form
INFORMATION

Date: _____			
Section 1. FSTD Information and Characteristics			
Sponsor Name:	_____	**FSTD Location:**	
Address:	_____ _____	**Physical Address:**	_____ _____
City:	_____	**City:**	_____
State:	_____	**State:**	_____
Country:	_____	**Country:**	_____
ZIP:	_____	**ZIP:**	_____
Manager	_____		
Sponsor ID No: *(Four Letter FAA Designator)*	_____	**Nearest Airport:** *(Airport Designator)*	_____

Type of Evaluation Requested:			☐ **Initial** ☐ **Upgrade** ☐ **Recurrent** ☐ **Special** ☐ **Reinstatement**		
Qualification Basis: _____	☐ **A**	☐ **B**	☐ **Interim C**	☐ **C**	☐ **D**
	☐ **6**	☐ **7**	☐ **Provisional Status**		

Initial Qualification: (If Applicable)	**Date:** _____ **Level** _____	**Manufacturer's Identification/Serial No:**	_____
Upgrade Qualification: (If Applicable)	**Date:** _____ **Level** _____ MM/DD/YYYY	☐ **eQTG**	

Other Technical Information:			
FAA FSTD ID No: (If Applicable)	_____	**FSTD Manufacturer:**	_____
Convertible FSTD:	☐**Yes:**	**Date of Manufacture:**	_____ MM/DD/YYYY
Related FAA ID No. (If Applicable)	_____ _____ _____	**Sponsor FSTD ID No:** _____	
Airplane model/series: _____		**Source of aerodynamic model:** _____	
Engine model(s) and data revision: _____		**Source of aerodynamic doefficient data:** _____	
FMS identification and revision level: _____		**Aerodynamic data revision number:** _____	
Visual system manufacturer/model: _____		**Visual system display:** _____	
Flight control data revision: _____		**FSTD computer(s) identification:** _____	
Motion system manufacturer/type: _____			

National Aviation Authority (NAA): (If Applicable)	_____		_____
NAA FSTD ID No:	_____	**Last NAA Evaluation Date:**	_____

Attachment 4 to Appendix A to Part 60—
Figure A4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form

INFORMATION

NAA Qualification Level:	____		
NAA Qualification Basis:	____		
Visual System Manufacturer and Type:	____	**Motion System Manufacturer and Type:**	____
Aircraft Make/Model/Series:	____	**FSTD Seats Available:**	____

Aircraft Equipment	**ENGINE TYPE(S):** ____	**Flight Instrumentation:** ☐ **EFIS** ☐ **HUD** ☐ **HGS** ☐ **EFVS** ☐ **TCAS** ☐ **GPWS** ☐ **Plain View** ☐ **GPS** ☐ **FMS Type:** ____ ☐ **WX Radar** ☐ **Other:** ____	Engine Instrumentation: ☐ **EICAS** ☐ **FADEC** ☐ **Other:** ____

Airport Models:	3.6.1 ____ *Airport Designator*	3.6.2 ____ *Airport Designator*	3.6.3 ____ *Airport Designator*
Circle to Land:	3. 7.1 ____ *Airport Designator*	3. 7.2 ____ *Approach*	3. 7.3 ____ *Landing Runway*
Visual Ground Segment	3.8.1 ____ *Airport Designator*	3.8 .2 ____ *Approach*	3. 8.3 ____ *Landing Runway*

Section 2. Supplementary Information

FAA Training Program Approval Authority:		☐ **POI** ☐ **TCPM** ☐ **Other:** ____	
Name:	____	**Office:**	____
Tel:	____	**Fax:**	____
Email:	____		
FSTD Scheduling Person:			
Name:	____		
Address 1:	____	**Address 2**	____
City:	____	**State:**	____
ZIP:	____	**Email:**	____
Tel:	____	**Fax:**	____
FSTD Technical Contact:			
Name:	____		
Address 1:	____	**Address 2**	____
City:	____	**State:**	____
ZIP:	____	**Email:**	____
Tel:	____	**Fax:**	____

Section 3. Training, Testing and Checking Considerations

Area/Function/Maneuver	**Requested**	**Remarks**
Private Pilot - Training / Checks: (142)	☐	____

Attachment 4 to Appendix A to Part 60—
Figure A4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form
INFORMATION

Commercial Pilot - Training /Checks:(142)	☐	____
Multi-Engine Rating - Training / Checks (142)	☐	____
Instrument Rating -Training / Checks (142)	☐	____
Type Rating - Training / Checks (135/121/142)	☐	____
Proficiency Checks (135/121/142)	☐	____
CAT I: (RVR 2400/1800 ft. DH200 ft)	☐	____
CAT II: (RVR 1200 ft. DH 100 ft)	☐	____
CAT III * (lowest minimum) _____ RVR _____ ft. * *State CAT III (≤ 700 ft.), CAT IIIb (≤ 150 ft.), or CAT IIIc (0 ft.)*	☐	____
Circling Approach	☐	____
Windshear Training:	☐	____
Windshear Training IAW 121.409(d) (121 Turbojets Only)	☐	____
Generic Unusual Attitudes and Recoveries within the Normal Flight Envelope	☐	____
Specific Unusual Attitudes Recoveries	☐	____
Auto-coupled Approach/Auto Go Around	☐	____
Auto-land / Roll Out Guidance	☐	____
TCAS/ACAS I / II	☐	____
WX-Radar	☐	____
HUD	☐	____
HGS	☐	
EFVS	☐	
Future Air Navigation Systems	☐	____
GPWS / EGPWS	☐	____
ETOPS Capability	☐	____
GPS	☐	____
SMGCS	☐	____
Helicopter Slope Landings	☐	____
Helicopter External Load Operations	☐	____
Helicopter Pinnacle Approach to Landings	☐	____
Helicopter Night Vision Maneuvers	☐	____
Helicopter Category A Takeoffs	☐	____

Attachment 4 to Appendix A to Part 60—
Figure A4C – Sample Qualification Test Guide Cover Page
INFORMATION

SPONSOR NAME

SPONSOR ADDRESS

FAA QUALIFICATION TEST GUIDE

(SPECIFIC AIRPLANE MODEL)
for example
Stratos BA797-320A

(Type of Simulator)

(Simulator Identification Including Manufacturer, Serial Number, Visual System Used)

(Simulator Level)

(Qualification Performance Standard Used)

(Simulator Location)

FAA Initial Evaluation

Date: _____

_____ Date: _____
(Sponsor)

_____ Date: _____
Manager, National
Simulator Program, FAA

Attachment 4 to Appendix A to Part 60—
Figure A4D – Sample Statement of Qualification - Certificate
INFORMATION

Federal Aviation Administration
National Simulator Program

Certificate of Qualification

This is to certify that representatives of the National Simulator Program Completed an evaluation of the

Go-Fast Airlines
Farnsworth Z-100 Full Flight Simulator
FAA Identification Number 999

And pursuant to 14 CFR Part 60 found it to meet its original qualification basis, AC 120-40B (MM/DD/YY)

The Master Qualification Test Guide and the attached Configuration List and Restrictions List Provide the Qualification Basis for this device to operate at

Level D

Until April 30, 2010

Unless sooner rescinded or extended by the National Simulator Program Manager

March 15, 2009 — (date)

B. Williamson — (for the NSPM)

Attachment 4 to Appendix A to Part 60—
Figure A4E – Sample Statement of Qualification; Configuration List
INFORMATION

STATEMENT OF QUALIFICATION
CONFIGURATION LIST

Date: _____			
Section 1. FSTD Information and Characteristics			
Sponsor Name:	_____	**FSTD Location:**	
Address:	_____ _____	**Physical Address:**	_____ _____
City:	_____	**City:**	_____
State:	_____	**State:**	_____
Country:	_____	**Country:**	_____
ZIP:	_____	**ZIP:**	_____
Manager	_____		
Sponsor ID No: *(Four Letter FAA Designator)*	_____	**Nearest Airport:** *(Airport Designator)*	_____

Type of Evaluation Requested:			☐ **Initial** ☐ **Upgrade** ☐ **Recurrent** ☐ **Special** ☐ **Reinstatement**		
Qualification Basis: _____	☐ **A**	☐ **B**	☐ **Interim C**	☐ **C**	☐ **D**
	☐ **6**	☐ **7**	☐ **Provisional Status**		

Initial Qualification: (If Applicable)	**Date:** _____ **Level** _____	**Manufacturer's Identification/Serial No:**	_____
Upgrade Qualification: (If Applicable)	**Date:** _____ **Level** _____ MM/DD/YYYY	☐ **eQTG**	

Other Technical Information:			
FAA FSTD ID No: (If Applicable)	_____	**FSTD Manufacturer:**	_____
Convertible FSTD:	☐ **Yes:**	**Date of Manufacture:**	_____ MM/DD/YYYY
Related FAA ID No. (If Applicable)	_____ _____ _____	**Sponsor FSTD ID No:** _____	
Aircraft model/series: _____		**Source of aerodynamic model:** _____	
Engine model(s) and data revision: _____		**Source of aerodynamic doefficient data:** _____	
FMS identification and revision level: _____		**Aerodynamic data revision number:** _____	
Visual system manufacturer/model: _____		**Visual system display:** _____	
Flight control data revision: _____		**FSTD computer(s) identification:** _____	
Motion system manufacturer/type: _____			

National Aviation Authority (NAA): (If Applicable)	_____		_____
NAA FSTD ID No:	_____	**Last NAA Evaluation Date:**	_____

Attachment 4 to Appendix A to Part 60—
Figure A4E – Sample Statement of Qualification; Configuration List
INFORMATION

NAA Qualification Level:	____		
NAA Qualification Basis:	____		
Visual System Manufacturer and Type:	____	**Motion System Manufacturer and Type:**	____
Aircraft Make/Model/Series:	____	**FSTD Seats Available:**	____

Aircraft Equipment	**ENGINE TYPE(S):** ____	**Flight Instrumentation:** ☐ **EFIS** ☐ **HUD** ☐ **HGS** ☐ **EFVS** ☐ **TCAS** ☐ **GPWS** ☐ **Plain View** ☐ **GPS** ☐ **FMS Type:** ____ ☐ **WX Radar** ☐ **Other:** ____	Engine Instrumentation: ☐ **EICAS** ☐ **FADEC** ☐ **Other:** ____

Airport Models:	3.6.1 ____ *Airport Designator*	3.6.2____ *Airport Designator*	3.6.3 ____ *Airport Designator*
Circle to Land:	3. 7.1 ____ *Airport Designator*	3. 7.2____ *Approach*	3. 7.3 ____ *Landing Runway*
Visual Ground Segment	3.8.1 ____ *Airport Designator*	3.8 .2____ *Approach*	3. 8.3 ____ *Landing Runway*

Section 2. Supplementary Information

FAA Training Program Approval Authority:		☐ **POI** ☐ **TCPM** ☐ **Other:** ____	
Name:	____	**Office:**	____
Tel:	____	**Fax:**	____
Email:	____		
FSTD Scheduling Person:			
Name:	____		
Address 1:	____	**Address 2**	____
City:	____	**State:**	____
ZIP:	____	**Email:**	____
Tel:	____	**Fax:**	____
FSTD Technical Contact:			
Name:	____		
Address 1:	____	**Address 2**	____
City:	____	**State:**	____
ZIP:	____	**Email:**	____
Tel:	____	**Fax:**	____

Section 3. Training, Testing and Checking Considerations

Area/Function/Maneuver	Requested	Remarks
Private Pilot - Training / Checks: (142)	☐	____
Commercial Pilot - Training /Checks:(142)	☐	____

Attachment 4 to Appendix A to Part 60—
Figure A4E – Sample Statement of Qualification; Configuration List
INFORMATION

Multi-Engine Rating - Training / Checks (142)	☐	____
Instrument Rating -Training / Checks (142)	☐	____
Type Rating - Training / Checks (135/121/142)	☐	____
Proficiency Checks (135/121/142)	☐	____
CAT I: (RVR 2400/1800 ft. DH200 ft)	☐	____
CAT II: (RVR 1200 ft. DH 100 ft)	☐	____
CAT III * (lowest minimum) _____ RVR _____ ft. * *State CAT III (≤ 700 ft.), CAT IIIb (≤ 150 ft.), or CAT IIIc (0 ft.)*	☐	____
Circling Approach	☐	____
Windshear Training:	☐	____
Windshear Training IAW 121.409(d) (121 Turbojets Only)	☐	____
Generic Unusual Attitudes and Recoveries within the Normal Flight Envelope	☐	____
Specific Unusual Attitudes Recoveries	☐	____
Auto-coupled Approach/Auto Go Around	☐	____
Auto-land / Roll Out Guidance	☐	____
TCAS/ACAS I / II	☐	____
WX-Radar	☐	____
HUD	☐	____
HGS	☐	
EFVS	☐	
Future Air Navigation Systems	☐	____
GPWS / EGPWS	☐	____
ETOPS Capability	☐	____
GPS	☐	____
SMGCS	☐	____
Helicopter Slope Landings	☐	____
Helicopter External Load Operations	☐	____
Helicopter Pinnacle Approach to Landings	☐	____
Helicopter Night Vision Maneuvers	☐	____
Helicopter Category A Takeoffs	☐	____

Attachment 4 to Appendix A to Part 60—
Figure A4F – Sample Statement of Qualification – List of Qualified Tasks
INFORMATION

STATEMENT of QUALIFICATION
List of Qualified Tasks

Go Fast Airline Training -- Farnsworth Z-100 -- Level D -- FAA ID# 999

The FSTD is qualified to perform all of the Maneuvers, Procedures, Tasks, and Functions Listed in Appendix A, Attachment 1, Table A1B, Minimum FSTD Requirements In Effect on [mm/dd/yyyy] except for the following listed Tasks or Functions.

Qualified for all tasks in Table A1B, for which the sponsor has requested qualification, except for the following: 3.e(1)(i) NDB approach 3.f. Recovery from Unusual Attitudes 4.3. Circling Approach
Additional tasks for which this FSTD is qualified (i.e., in addition to the list in Table A1B) 1. Enhanced Visual System 2. Windshear Training IAW Section 121.409(d).
The airport visual models evaluated for qualification at this level are: 1. Atlanta Hartsfield International Airport (KATL) 2. Miami International Airport (KMIA) 3. Dallas/Ft. Worth Regional Airport (KDFW)

Attachment 4 to Appendix A to Part 60—
Figure A4G – Sample Continuing Qualification Evaluation Requirements Page
INFORMATION

Recurrent Evaluation Requirements ***Completed at conclusion of Initial Evaluation***	
Recurrent Evaluations to be conducted each _(fill in)__ months Allotting _____ hours of FTD time. Signed: _____ NSPM / Evaluation Team Leader	Recurrent evaluations are due as follows: _(month)__ and __(month)_ and __(month)_ (enter or strike out, as appropriate) _____ Date

Revision: Based on (enter reasoning):	
Recurrent Evaluations are to be conducted each _(fill in)__ months. Allotting _____ hours. Signed: _____ NSPM Evaluation Team Leader	Recurrent evaluations are due as follows: _(month)__ and __(month)_ and __(month)_ (enter or strike out, as appropriate) _____ Date

Revision: Based on (enter reasoning):	
Recurrent Evaluations are to be conducted each _(fill in)__ months. Allotting _____ hours. Signed: _____ NSPM Evaluation Team Leader	Recurrent evaluations are due as follows: _(month)__ and __(month)_ and __(month)_ (enter or strike out, as appropriate) _____ Date

(Repeat as Necessary)

Attachment 4 to Appendix A to Part 60—
Figure A4H –Sample MQTG Index of Effective FSTD Directives
INFORMATION

Index of Effective FSTD Directives Filed in this Section

Notification Number	Effective Date of FSTD Directive	Date of Notification	Details
(FSTD Directive 1)	*(effective date of FSTD Directive)*	*(Date of publication in Federal Register)*	

Continue as Necessary....

BILLING CODE 4910–13–C

Attachment 5 to Appendix A to Part 60—Simulator Qualification Requirements for Windshear Training Program Use

Begin QPS Requirements

1. Applicability

This attachment applies to all simulators, regardless of qualification level, that are used to satisfy the training requirements of an FAA-approved low-altitude windshear flight training program, or any FAA-approved training program that addresses windshear encounters.

2. Statement of Compliance and Capability (SOC)

a. The sponsor must submit an SOC confirming that the aerodynamic model is based on flight test data supplied by the airplane manufacturer or other approved data provider. The SOC must also confirm that any change to environmental wind parameters, including variances in those parameters for windshear conditions, once inserted for computation, result in the correct simulated performance. This statement must also include examples of environmental wind parameters currently evaluated in the simulator (such as crosswind takeoffs, crosswind approaches, and crosswind landings).

b. For simulators without windshear warning, caution, or guidance hardware in the original equipment, the SOC must also state that the simulation of the added hardware and/or software, including associated flight deck displays and annunciations, replicates the system(s) installed in the airplane. The statement must be accompanied by a block diagram depicting the input and output signal flow, and comparing the signal flow to the equipment installed in the airplane.

3. Models

The windshear models installed in the simulator software used for the qualification evaluation must do the following:

a. Provide cues necessary for recognizing windshear onset and potential performance degradation requiring a pilot to initiate recovery procedures. The cues must include all of the following, as may be appropriate for the appropriate portion of the flight envelope:

(1) Rapid airspeed change of at least ±15 knots (kts).

(2) Stagnation of airspeed during the takeoff roll.

(3) Rapid vertical speed change of at least ±500 feet per minute (fpm).

(4) Rapid pitch change of at least ±5°.

b. Be adjustable in intensity (or other parameter to achieve an intensity effect) to at least two (2) levels so that upon encountering the windshear the pilot may identify its presence and apply the recommended procedures for escape from such a windshear.

(1) If the intensity is lesser, the performance capability of the simulated airplane in the windshear permits the pilot to maintain a satisfactory flightpath; and

(2) If the intensity is greater, the performance capability of the simulated airplane in the windshear does not permit the pilot to maintain a satisfactory flightpath (crash).

Note: The means used to accomplish the ''nonsurvivable'' scenario of paragraph 3.b.(2) of this attachment, that involve operational elements of the simulated airplane, must reflect the dispatch limitations of the airplane.

c. Be available for use in the FAA-approved windshear flight training program.

4. Demonstrations

a. The sponsor must identify one survivable takeoff windshear training model and one survivable approach windshear training model. The wind components of the survivable models must be presented in graphical format so that all components of the windshear are shown, including initiation point, variance in magnitude, and time or distance correlations. The simulator must be operated at the same gross weight, airplane configuration, and initial airspeed in all of the following situations:

(1) Takeoff—through calm air.

(2) Takeoff—through the first selected survivable windshear.

(3) Approach—through calm air.

(4) Approach—through the second selected survivable windshear.

b. In each of these four situations, at an ''initiation point'' (i.e., where windshear onset is or should be recognized), the recommended procedures for windshear recovery are applied and the results are recorded as specified in paragraph 5 of this attachment.

c. These recordings are made without inserting programmed random turbulence. Turbulence that results from the windshear model is to be expected, and no attempt may be made to neutralize turbulence from this source.

d. The definition of the models and the results of the demonstrations of all four (4) cases described in paragraph 4.a of this attachment, must be made a part of the MQTG.

5. Recording Parameters

a. In each of the four MQTG cases, an electronic recording (time history) must be made of the following parameters:

(1) Indicated or calibrated airspeed.

(2) Indicated vertical speed.

(3) Pitch attitude.

(4) Indicated or radio altitude.

(5) Angle of attack.

(6) Elevator position.

(7) Engine data (thrust, N_1, or throttle position).

(8) Wind magnitudes (simple windshear model assumed).

b. These recordings must be initiated at least 10 seconds prior to the initiation point, and continued until recovery is complete or ground contact is made.

6. Equipment Installation and Operation

All windshear warning, caution, or guidance hardware installed in the simulator must operate as it operates in the airplane. For example, if a rapidly changing wind speed and/or direction would have caused a windshear warning in the airplane, the simulator must respond equivalently without instructor/evaluator intervention.

7. Qualification Test Guide

a. All QTG material must be forwarded to the NSPM.

b. A simulator windshear evaluation will be scheduled in accordance with normal procedures. Recurrent evaluation schedules will be used to the maximum extent possible.

c. During the on-site evaluation, the evaluator will ask the operator to run the performance tests and record the results. The results of these on-site tests will be compared to those results previously approved and placed in the QTG or MQTG, as appropriate.

d. QTGs for new (or MQTGs for upgraded) simulators must contain or reference the information described in paragraphs 2, 3, 4, and 5 of this attachment.

End QPS Requirements

Begin Information

8. Subjective Evaluation

The NSPM will fly the simulator in at least two of the available windshear scenarios to subjectively evaluate simulator performance as it encounters the programmed windshear conditions.

a. One scenario will include parameters that enable the pilot to maintain a satisfactory flightpath.

b. One scenario will include parameters that will not enable the pilot to maintain a satisfactory flightpath (crash).

c. Other scenarios may be examined at the NSPM's discretion.

9. Qualification Basis

The addition of windshear programming to a simulator in order to comply with the qualification for required windshear training does not change the original qualification basis of the simulator.

10. Demonstration Repeatability

For the purposes of demonstration repeatability, it is recommended that the simulator be flown by means of the simulator's autodrive function (for those simulators that have autodrive capability) during the demonstrations.

End Information

Attachment 6 to Appendix A to Part 60—FSTD Directives Applicable To Airplane Flight Simulators

Flight Simulation Training Device (FSTD) Directive (FD)

FSTD Directive Number 1. Applicable to all Full Flight Simulators (FFS), regardless of the original qualification basis and qualification date (original or upgrade), having Class–II visual scenes or airport models available.

Agency: Federal Aviation Administration (FAA), DOT

Action: This is a retroactive requirement to have all Class II visual scenes or airport models meet current requirements.

Summary: Notwithstanding the authorization listed in paragraph 13b in Appendices A and C, this FSTD Directive (FD) requires each sponsor to ensure that, by [date 1 year after effective date of the final rule], each Class II visual scene or airport model available in an FFS, meets the requirements of 14 CFR part 60, Appendix A, Attachment 3, Table A3C, or Appendix C, Attachment 3, Table C3C, as applicable. The completion of this requirement will not require a report. The fact that the scene or model is available in the FFS is the sponsor's testament that the requirements are met.

Dates: This FD becomes effective on [effective date of the final rule].

For Further Information Contact: Ed Cook, Senior Advisor to the Division Manager, Air Transportation Division, AFS–200, 800 Independence Ave, SW., Washington, DC, 20591: telephone: (404) 832–4701; fax: (404) 761–8906.

Specific Requirements:

1. Part 60 requires that each FSTD be:

a. Sponsored by a person holding or applying for an FAA operating certificate under Part 119, Part 141, or Part 142, or holding or applying for an FAA-approved training program under Part 63, Appendix C, for flight engineers, and

b. Evaluated and issued a Statement of Qualification for a specific FSTD level.

2. Full flight simulators (FFS) also require the installation of a visual system that is capable of providing an out-of-the-flight-deck view of visual scenes or airport models. To be qualified, each FFS must have available for use a minimum number of visual scenes or airport models that have certain features. These are called Class I visual scenes or airport models, the required features of which are listed in Part 60. Additional scenes or models that are beyond those necessary for qualification may also be used for various additional training program applications, including Line Oriented Flight Training, are classified as Class II. However, historically these visual scenes or airport models were not routinely evaluated or required to meet any standardized criteria. This has led to qualified simulators containing visual scenes or airport models being used to meet FAA-approved training, testing, or checking requirements with potentially incorrect or inappropriate visual references.

3. To prevent this from occurring in the future, by [date 1 year after effective date of the final rule], each FSTD sponsor must assure that each Class II visual scene or airport model available in a qualified FFS meets the requirements found in 14 CFR part 60, Appendix A, Attachment 3, Table A3C or Appendix C, Attachment 3, Table C3C, as applicable. These references describe the requirements for visual scene management and the minimum distances from which runway or landing area features must be visible for all levels of simulator. The visual scene or airport model must provide, for each ''in-use runway'' or ''in-use landing area,'' runway or landing area surface and markings, runway or landing area lighting, taxiway surface and markings, and taxiway lighting. Additional requirements include correlation of the visual scenes or airport models with other aspects of the airport environment, correlation of the aircraft and associated equipment, scene quality assessment features, and the control of these scenes or models the instructor must be able to exercise.

4. For circling approaches, all requirements of this section apply to the runway used for the initial approach and to the runway of intended landing.

5. The details in these scenes or models must be developed using airport pictures, construction drawings and maps, or other

similar data, or developed in accordance with published regulatory material. However, this FD does not require that visual scenes or airport models contain details that are beyond the initially designed capability of the visual system, as currently qualified. The recognized limitations to visual systems are as follows:

a. Visual systems not required to have runway numbers as a part of the specific runway marking requirements are:

(1) Link NVS and DNVS.

(2) Novoview 2500 and 6000.

(3) FlightSafety VITAL series up to, and including, VITAL III, but not beyond.

(4) Redifusion SP1, SP1T, and SP2.

b. Visual systems required to display runway numbers only for LOFT scenes are:

(1) FlightSafety VITAL IV.

(2) Redifusion SP3 and SP3T.

(3) Link-Miles Image II.

c. Visual systems not required to have accurate taxiway edge lighting are:

(1) Redifusion SP1.

(2) FlightSafety Vital IV.

(3) Link-Miles Image II and Image IIT.

(4) XKD displays (even though the XKD image generator is capable of generating blue colored lights, the display cannot accommodate that color).

6. A copy of this Directive must be filed in the Master Qualification Test Guide in the designated FSTD Directive Section, and its inclusion must be annotated on the Index of Effective FSTD Directives chart. See Attachment 4, Appendices A through D for a sample MQTG Index of Effective FSTD Directives chart.

Appendix B to Part 60—Qualification Performance Standards for Airplane Flight Training Devices

Begin Information

This appendix establishes the standards for Airplane Flight Training Device (FTD) evaluation and qualification at Level 4, Level 5, or Level 6. The Flight Standards Service, National Simulator Program Manager (NSPM), is responsible for the development, application, and implementation of the standards contained within this appendix. The procedures and criteria specified in this appendix will be used by the NSPM, or a person or persons assigned by the NSPM when conducting airplane FTD evaluations.

Table of Contents

1. Introduction.
2. Applicability (§§ 60.1 and 60.2).
3. Definitions (§ 60.3).
4. Qualification Performance Standards (§ 60.4).
5. Quality Management System (§ 60.5).
6. Sponsor Qualification Requirements (§ 60.7).
7. Additional Responsibilities of the Sponsor (§ 60.9).
8. FSTD Use (§ 60.11).
9. FSTD Objective Data Requirements (§ 60.13).
10. Special Equipment and Personnel Requirements for Qualification of the FSTD (§ 60.14).
11. Initial (and Upgrade) Qualification Requirements (§ 60.15).
12. Additional Qualifications for Currently Qualified FSTDs (§ 60.16).
13. Previously Qualified FSTDs (§ 60.17).
14. Inspection, Continuing Qualification Evaluation, and Maintenance Requirements (§ 60.19).
15. Logging FSTD Discrepancies (§ 60.20).
16. Interim Qualification of FSTDs for New Airplane Types or Models (§ 60.21).
17. Modifications to FSTDs (§ 60.23).
18. Operations with Missing, Malfunctioning, or Inoperative Components (§ 60.25).
19. Automatic Loss of Qualification and Procedures for Restoration of Qualification (§ 60.27).
20. Other Losses of Qualification and Procedures for Restoration of Qualification (§ 60.29).
21. Record Keeping and Reporting (§ 60.31).
22. Applications, Logbooks, Reports, and Records: Fraud, Falsification, or Incorrect Statements (§ 60.33).
23. [Reserved]
24. Levels of FTD.
25. FSTD Qualification on the Basis of a Bilateral Aviation Safety Agreement (BASA) (§ 60.37).

Attachment 1 to Appendix B to Part 60—General FTD Requirements.
Attachment 2 to Appendix B to Part 60—Flight Training Device (FTD) Objective Tests.
Attachment 3 to Appendix B to Part 60—Flight Training Device (FTD) Subjective Evaluation.
Attachment 4 to Appendix B to Part 60—Sample Documents.
Attachment 5 to Appendix B to Part 60—FSTD Directives.

End Information

1. Introduction

Begin Information

a. This appendix contains background information as well as regulatory and informative material as described later in this section. To assist the reader in determining what areas are required and what areas are permissive, the text in this appendix is divided into two sections: ''QPS Requirements'' and ''Information.'' The QPS Requirements sections contain details regarding compliance with the part 60 rule language. These details are regulatory, but are found only in this appendix. The Information sections contain material that is advisory in nature, and designed to give the user general information about the regulation.

b. Questions regarding the contents of this publication should be sent to the U.S. Department of Transportation, Federal Aviation Administration, Flight Standards Service, National Simulator Program Staff, AFS–205, 100 Hartsfield Centre Parkway, Suite 400, Atlanta, Georgia, 30354. Telephone contact numbers for the NSP are: phone, 404–832–4700; fax, 404–761–8906. The general email address for the NSP office is: *9-aso-avr-sim-team@faa.gov*. The NSP Internet Web Site address is: *http://www.faa.gov/safety/programs_initiatives/aircraft_aviation/nsp/*. On this Web Site you will find an NSP personnel list with telephone and email contact information for each NSP staff member, a list of qualified flight simulation devices, advisory circulars, a description of the qualification process, NSP policy, and an NSP ''In-Works'' section. Also linked from this site are additional information sources, handbook bulletins, frequently asked questions, a listing and text of the Federal Aviation Regulations, Flight Standards Inspector's handbooks, and other FAA links.

c. The NSPM encourages the use of electronic media for all communication, including any record, report, request, test, or statement required by this appendix. The electronic media used must have adequate security provisions and be acceptable to the NSPM. The NSPM recommends inquiries on system compatibility, and minimum system requirements are also included on the NSP Web site.

d. Related Reading References.

(1) 14 CFR part 60.

(2) 14 CFR part 61.

(3) 14 CFR part 63.

(4) 14 CFR part 119.

(5) 14 CFR part 121.

(6) 14 CFR part 125.

(7) 14 CFR part 135.

(8) 14 CFR part 141.

(9) 14 CFR part 142.

(10) Advisory Circular (AC) 120–28C, Criteria for Approval of Category III Landing Weather Minima.

(11) AC 120–29, Criteria for Approving Category I and Category II Landing Minima for part 121 operators.

(12) AC 120–35B, Line Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation.

(13) AC 120–41, Criteria for Operational Approval of Airborne Wind Shear Alerting and Flight Guidance Systems.

(14) AC 120–57A, Surface Movement Guidance and Control System (SMGS).

(15) AC 150/5300–13, Airport Design.

(16) AC 150/5340–1G, Standards for Airport Markings.

(17) AC 150/5340–4C, Installation Details for Runway Centerline Touchdown Zone Lighting Systems.

(18) AC 150/5340–19, Taxiway Centerline Lighting System.

(19) AC 150/5340–24, Runway and Taxiway Edge Lighting System.

(20) AC 150/5345–28D, Precision Approach Path Indicator (PAPI) Systems.

(21) International Air Transport Association document, ''Flight Simulator Design and Performance Data Requirements,'' as amended.

(22) AC 25–7, as amended, Flight Test Guide for Certification of Transport Category Airplanes.

(23) AC 23–8A, as amended, Flight Test Guide for Certification of Part 23 Airplanes.

(24) International Civil Aviation Organization (ICAO) Manual of Criteria for the Qualification of Flight Simulators, as amended.

(25) Airplane Flight Simulator Evaluation Handbook, Volume I, as amended and Volume II, as amended, The Royal Aeronautical Society, London, UK.

(26) FAA Publication FAA–S–8081 series (Practical Test Standards for Airline

Transport Pilot Certificate, Type Ratings, Commercial Pilot, and Instrument Ratings).

(27) The FAA Aeronautical Information Manual (AIM). An electronic version of the AIM is on the Internet at *http://www.faa.gov/atpubs*.

End Information

2. Applicability (§§ 60.1 and 60.2)

Begin Information

No additional regulatory or informational material applies to § 60.1, Applicability, or to § 60.2, Applicability of sponsor rules to person who are not sponsors and who are engaged in certain unauthorized activities.

3. Definitions (§ 60.3)

See Appendix F of this part for a list of definitions and abbreviations from part 1, part 60, and the QPS appendices of part 60.

4. Qualification Performance Standards (§ 60.4)

No additional regulatory or informational material applies to § 60.4, Qualification Performance Standards.

5. Quality Management System (§ 60.5)

Additional regulatory material and informational material regarding Quality Management Systems for FTDs may be found in appendix E of this part.

End Information

6. Sponsor Qualification Requirements (§ 60.7)

Begin Information

a. The intent of the language in § 60.7(b) is to have a specific FTD, identified by the sponsor, used at least once in an FAA-approved flight training program for the airplane simulated during the 12-month period described. The identification of the specific FTD may change from one 12-month period to the next 12-month period as long as that sponsor sponsors and uses at least one FTD at least once during the prescribed period. There is no minimum number of hours or minimum FTD periods required.

b. The following examples describe acceptable operational practices:

(1) Example One.

(a) A sponsor is sponsoring a single, specific FTD for its own use, in its own facility or elsewhere—this single FTD forms the basis for the sponsorship. The sponsor uses that FTD at least once in each 12-month period in that sponsor's FAA-approved flight training program for the airplane simulated. This 12-month period is established according to the following schedule:

(i) If the FTD was qualified prior to May 30, 2008, the 12-month period begins on the date of the first continuing qualification evaluation conducted in accordance with § 60.19 after (60 days after date of publication of the final rule in the **Federal Register**) and continues for each subsequent 12-month period;

(ii) A device qualified on or after May 30, 2008, will be required to undergo an initial or upgrade evaluation in accordance with § 60.15. Once the initial or upgrade evaluation is complete, the first continuing qualification evaluation will be conducted within 6 months. The 12 month continuing qualification evaluation cycle begins on that date and continues for each subsequent 12-month period.

(b) There is no minimum number of hours of FTD use required.

(c) The identification of the specific FTD may change from one 12-month period to the next 12-month period as long as that sponsor sponsors and uses at least one FTD at least once during the prescribed period.

(2) Example Two.

(a) A sponsor sponsors an additional number of FTDs, in its facility or elsewhere. Each additionally sponsored FTD must be—

(i) Used by the sponsor in the sponsor's FAA-approved flight training program for the airplane simulated (as described in § 60.7(d)(1)); or

(ii) Used by another FAA certificate holder in that other certificate holder's FAA-approved flight training program for the airplane simulated (as described in § 60.7(d)(1)). This 12-month period is established in the same manner as in example one; or

(iii) Provided a statement each year from a qualified pilot, (after having flown the airplane, not the subject FTD or another FTD, during the preceding 12-month period) stating that the subject FTD's performance and handling qualities represent the airplane (as described in § 60.7(d)(2)). This statement is provided at least once in each 12-month period established in the same manner as in example one.

(b) There is no minimum number of hours of FTD use required.

(3) Example Three.

(a) A sponsor in New York (in this example, a Part 142 certificate holder) establishes ''satellite'' training centers in Chicago and Moscow.

(b) The satellite function means that the Chicago and Moscow centers must operate under the New York center's certificate (in accordance with all of the New York center's practices, procedures, and policies; e.g., instructor and/or technician training/checking requirements, record keeping, QMS program).

(c) All of the FTDs in the Chicago and Moscow centers could be dry-leased (i.e., the certificate holder does not have and use FAA-approved flight training programs for the FTDs in the Chicago and Moscow centers) because—

(i) Each FTD in the Chicago center and each FTD in the Moscow center is used at least once each 12-month period by another FAA certificate holder in that other certificate holder's FAA-approved flight training program for the airplane (as described in § 60.7(d)(1)); or

(ii) A statement is obtained from a qualified pilot (having flown the airplane, not the subject FTD or another FTD during the preceding 12-month period) stating that the performance and handling qualities of each FTD in the Chicago and Moscow centers represents the airplane (as described in § 60.7(d)(2)).

End Information

7. Additional Responsibilities of the Sponsor (§ 60.9)

Begin Information

The phrase ''as soon as practicable'' in § 60.9(a) means without unnecessarily disrupting or delaying beyond a reasonable time the training, evaluation, or experience being conducted in the FSTD.

8. FSTD Use (§ 60.11)

No additional regulatory or informational material applies to § 60.11, FSTD use.

End Information

9. FSTD Objective Data Requirements (§ 60.13)

Begin QPS Requirements

a. Flight test data used to validate FTD performance and handling qualities must have been gathered in accordance with a flight test program containing the following:

(1) A flight test plan consisting of:

(a) The maneuvers and procedures required for aircraft certification and simulation programming and validation.

(b) For each maneuver or procedure—

(i) The procedures and control input the flight test pilot and/or engineer used.

(ii) The atmospheric and environmental conditions.

(iii) The initial flight conditions.

(iv) The airplane configuration, including weight and center of gravity.

(v) The data to be gathered.

(vi) All other information necessary to recreate the flight test conditions in the FTD.

(2) Appropriately qualified flight test personnel.

(3) An understanding of the accuracy of the data to be gathered using appropriate alternative data sources, procedures, and instrumentation that is traceable to a recognized standard as described in Attachment 2, Table B2F.

(4) Appropriate and sufficient data acquisition equipment or system(s), including appropriate data reduction and analysis methods and techniques, as would be acceptable to the FAA's Aircraft Certification Service.

b. The data, regardless of source, must be presented:

(1) In a format that supports the FTD validation process;

(2) In a manner that is clearly readable and annotated correctly and completely;

(3) With resolution sufficient to determine compliance with the tolerances set forth in Attachment 2, Table B2A appendix.

(4) With any necessary guidance information provided; and

(5) Without alteration, adjustments, or bias; however the data may be re-scaled, digitized, or otherwise manipulated to fit the desired presentation.

c. After completion of any additional flight test, a flight test report must be submitted in support of the validation data. The report must contain sufficient data and rationale to support qualification of the FTD at the level requested.

d. As required by § 60.13(f), the sponsor must notify the NSPM when it becomes aware that an addition to or a revision of the flight related data or airplane systems related data is available if this data is used to program and operate a qualified FTD. The data referred to in this sub-section are those data that are used to validate the performance, handling qualities, or other characteristics of the aircraft, including data related to any relevant changes occurring after the type certification is issued. The sponsor must—

(1) Within 10 calendar days, notify the NSPM of the existence of this data; and

(2) Within 45 calendar days, notify the NSPM of—

(i) The schedule to incorporate this data into the FTD; or

(ii) The reason for not incorporating this data into the FTD.

e. In those cases where the objective test results authorize a ''snapshot test'' or a ''series of snapshot test results'' in lieu of a time-history result, the sponsor or other data provider must ensure that a steady state condition exists at the instant of time captured by the ''snapshot.'' The steady state condition must exist from 4 seconds prior to, through 1 second following, the instant of time captured by the snap shot.

End QPS Requirements

Begin Information

f. The FTD sponsor is encouraged to maintain a liaison with the manufacturer of the aircraft being simulated (or with the holder of the aircraft type certificate for the aircraft being simulated if the manufacturer is no longer in business), and if appropriate, with the person having supplied the aircraft data package for the FTD in order to facilitate the notification described in this paragraph.

g. It is the intent of the NSPM that for new aircraft entering service, at a point well in advance of preparation of the Qualification Test Guide (QTG), the sponsor should submit to the NSPM for approval, a descriptive document (a validation data roadmap) containing the plan for acquiring the validation data, including data sources. This document should clearly identify sources of data for all required tests, a description of the validity of these data for a specific engine type and thrust rating configuration, and the revision levels of all avionics affecting the performance or flying qualities of the aircraft. Additionally, this document should provide other information such as the rationale or explanation for cases where data or data parameters are missing, instances where engineering simulation data are used, or where flight test methods require further explanations. It should also provide a brief narrative describing the cause and effect of any deviation from data requirements. The aircraft manufacturer may provide this document.

h. There is no requirement for any flight test data supplier to submit a flight test plan or program prior to gathering flight test data. However, the NSPM notes that inexperienced data gatherers often provide data that is irrelevant, improperly marked, or lacking adequate justification for selection. Other problems include inadequate information regarding initial conditions or test maneuvers. The NSPM has been forced to refuse these data submissions as validation data for an FTD evaluation. It is for this reason that the NSPM recommends that any data supplier not previously experienced in this area review the data necessary for programming and for validating the performance of the FTD and discuss the flight test plan anticipated for acquiring such data with the NSPM well in advance of commencing the flight tests.

i. The NSPM will consider, on a case-by-case basis, whether to approve supplemental validation data derived from flight data recording systems such as a Quick Access Recorder or Flight Data Recorder.

End Information

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10. Special Equipment and Personnel Requirements for Qualification of the FSTD (§ 60.14)

Begin Information

a. In the event that the NSPM determines that special equipment or specifically qualified persons will be required to conduct an evaluation, the NSPM will make every attempt to notify the sponsor at least one (1) week, but in no case less than 72 hours, in advance of the evaluation. Examples of special equipment include flight control measurement devices, accelerometers, or oscilloscopes. Examples of specially qualified personnel include individuals specifically qualified to install or use any special equipment when its use is required.

b. Examples of a special evaluation include an evaluation conducted after: an FTD is moved; at the request of the TPAA; or as a result of comments received from users of the FTD that raise questions about the continued qualification or use of the FTD.

End Information

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11. Initial (and Upgrade) Qualification Requirements (§ 60.15)

Begin QPS Requirement

a. In order to be qualified at a particular qualification level, the FTD must:

(1) Meet the general requirements listed in Attachment 1;

(2) Meet the objective testing requirements listed in Attachment 2 (Level 4 FTDs do not require objective tests); and

(3) Satisfactorily accomplish the subjective tests listed in Attachment 3.

b. The request described in § 60.15(a) must include all of the following:

(1) A statement that the FTD meets all of the applicable provisions of this part and all applicable provisions of the QPS.

(2) A confirmation that the sponsor will forward to the NSPM the statement described in § 60.15(b) in such time as to be received no later than 5 business days prior to the scheduled evaluation and may be forwarded to the NSPM via traditional or electronic means.

(3) Except for a Level 4 FTD, a qualification test guide (QTG), acceptable to the NSPM, that includes all of the following:

(a) Objective data obtained from aircraft testing or another approved source.

(b) Correlating objective test results obtained from the performance of the FTD as prescribed in the appropriate QPS.

(c) The result of FTD subjective tests prescribed in the appropriate QPS.

(d) A description of the equipment necessary to perform the evaluation for initial qualification and the continuing qualification evaluations.

c. The QTG described in paragraph a(3) of this section, must provide the documented proof of compliance with the FTD objective tests in Attachment 2, Table B2A of this appendix.

d. The QTG is prepared and submitted by the sponsor, or the sponsor's agent on behalf of the sponsor, to the NSPM for review and approval, and must include, for each objective test:

(1) Parameters, tolerances, and flight conditions;

(2) Pertinent and complete instructions for conducting automatic and manual tests;

(3) A means of comparing the FTD test results to the objective data;

(4) Any other information as necessary to assist in the evaluation of the test results;

(5) Other information appropriate to the qualification level of the FTD.

e. The QTG described in paragraphs (a)(3) and (b) of this section, must include the following:

(1) A QTG cover page with sponsor and FAA approval signature blocks (see Attachment 4, Figure B4C, for a sample QTG cover page).

(2) A continuing qualification evaluation requirements page. This page will be used by the NSPM to establish and record the frequency with which continuing qualification evaluations must be conducted and any subsequent changes that may be determined by the NSPM in accordance with § 60.19. See Attachment 4, Figure B4G, for a sample Continuing Qualification Evaluation Requirements page.

(3) An FTD information page that provides the information listed in this paragraph, if applicable (see Attachment 4, Figure B4B, for a sample FTD information page). For convertible FTDs, the sponsor must submit a separate page for each configuration of the FTD.

(a) The sponsor's FTD identification number or code.

(b) The airplane model and series being simulated.

(c) The aerodynamic data revision number or reference.

(d) The source of the basic aerodynamic model and the aerodynamic coefficient data used to modify the basic model.

(e) The engine model(s) and its data revision number or reference.

(f) The flight control data revision number or reference.

(g) The flight management system identification and revision level.

(h) The FTD model and manufacturer.

(i) The date of FTD manufacture.

(j) The FTD computer identification.

(k) The visual system model and manufacturer, including display type.

(l) The motion system type and manufacturer, including degrees of freedom.

(4) A Table of Contents.

(5) A log of revisions and a list of effective pages.

(6) List of all relevant data references.

(7) A glossary of terms and symbols used (including sign conventions and units).

(8) Statements of compliance and capability (SOCs) with certain requirements. SOCs must provide references to the sources of information that show the capability of the FTD to comply with the requirement, a rationale explaining how the referenced material is used, mathematical equations and parameter values used, and the conclusions reached; i.e., that the FTD complies with the requirement.

(9) Recording procedures or equipment required to accomplish the objective tests.

(10) The following information for each objective test designated in Attachment 2, as applicable to the qualification level sought:

(a) Name of the test.

(b) Objective of the test.

(c) Initial conditions.

(d) Manual test procedures.

(e) Automatic test procedures (if applicable).

(f) Method for evaluating FTD objective test results.

(g) List of all relevant parameters driven or constrained during the automatic test(s).

(h) List of all relevant parameters driven or constrained during the manual test(s).

(i) Tolerances for relevant parameters.

(j) Source of Validation Data (document and page number).

(k) Copy of the Validation Data (if located in a separate binder, a cross reference for the identification and page number for pertinent data location must be provided).

(l) FTD Objective Test Results as obtained by the sponsor. Each test result must reflect the date completed and must be clearly labeled as a product of the device being tested.

f. A convertible FTD is addressed as a separate FTD for each model and series airplane to which it will be converted and for the FAA qualification level sought. The NSPM will conduct an evaluation for each configuration. If a sponsor seeks qualification for two or more models of an airplane type using a convertible FTD, the sponsor must provide a QTG for each airplane model, or a QTG for the first airplane model and a supplement to that QTG for each additional airplane model. The NSPM will conduct evaluations for each airplane model.

g. The form and manner of presentation of objective test results in the QTG must include the following:

(1) The sponsor's FTD test results must be recorded in a manner acceptable to the NSPM, that allows easy comparison of the FTD test results to the validation data (e.g., use of a multi-channel recorder, line printer, cross plotting, overlays, transparencies).

(2) FTD results must be labeled using terminology common to airplane parameters as opposed to computer software identifications.

(3) Validation data documents included in a QTG may be photographically reduced only if such reduction will not alter the graphic scaling or cause difficulties in scale interpretation or resolution.

(4) Scaling on graphical presentations must provide the resolution necessary to evaluate the parameters shown in Attachment 2, Table B2A of this appendix.

(5) Tests involving time histories, data sheets (or transparencies thereof) and FTD test results must be clearly marked with appropriate reference points to ensure an accurate comparison between FTD and airplane with respect to time. Time histories recorded via a line printer are to be clearly identified for cross-plotting on the airplane data. Over-plots may not obscure the reference data.

h. The sponsor may elect to complete the QTG objective and subjective tests at the manufacturer's facility or at the sponsor's training facility. If the tests are conducted at the manufacturer's facility, the sponsor must repeat at least one-third of the tests at the sponsor's training facility in order to substantiate FTD performance. The QTG must be clearly annotated to indicate when and where each test was accomplished. Tests conducted at the manufacturer's facility and at the sponsor's training facility must be conducted after the FTD is assembled with systems and sub-systems functional and operating in an interactive manner. The test results must be submitted to the NSPM.

i. The sponsor must maintain a copy of the MQTG at the FTD location.

j. All FTDs for which the initial qualification is conducted after May 30, 2014, must have an electronic MQTG (eMQTG) including all objective data obtained from airplane testing, or another approved source (reformatted or digitized), together with correlating objective test results obtained from the performance of the FTD (reformatted or digitized) as prescribed in this appendix. The eMQTG must also contain the general FTD performance or demonstration results (reformatted or digitized) prescribed in this appendix, and a description of the equipment necessary to perform the initial qualification evaluation and the continuing qualification evaluations. The eMQTG must include the original validation data used to validate FTD performance and handling qualities in either the original digitized format from the data supplier or an electronic scan of the original time-history plots that were provided by the data supplier. A copy of the eMQTG must be provided to the NSPM.

k. All other FTDs (not covered in subparagraph ''j'') must have an electronic copy of the MQTG by and after May 30, 2014. A copy of the eMQTG must be provided to the NSPM. This may be provided by an electronic scan presented in a Portable Document File (PDF), or similar format acceptable to the NSPM.

l. During the initial (or upgrade) qualification evaluation conducted by the NSPM, the sponsor must also provide a person knowledgeable about the operation of the aircraft and the operation of the FTD.

End QPS Requirements

Begin Information

m. Only those FTDs that are sponsored by a certificate holder as defined in Appendix F will be evaluated by the NSPM. However, other FTD evaluations may be conducted on a case-by-case basis as the Administrator deems appropriate, but only in accordance with applicable agreements.

n. The NSPM will conduct an evaluation for each configuration, and each FTD must be evaluated as completely as possible. To ensure a thorough and uniform evaluation, each FTD is subjected to the general FTD requirements in Attachment 1, the objective tests listed in Attachment 2, and the subjective tests listed in Attachment 3 of this appendix. The evaluations described herein will include, but not necessarily be limited to the following:

(1) Airplane responses, including longitudinal and lateral-directional control responses (see Attachment 2 of this appendix);

(2) Performance in authorized portions of the simulated airplane's operating envelope, to include tasks evaluated by the NSPM in the areas of surface operations, takeoff, climb, cruise, descent, approach and landing, as well as abnormal and emergency operations (see Attachment 2 of this appendix);

(3) Control checks (see Attachment 1 and Attachment 2 of this appendix);

(4) Flight deck configuration (see Attachment 1 of this appendix);

(5) Pilot, flight engineer, and instructor station functions checks (see Attachment 1 and Attachment 3 of this appendix);

(6) Airplane systems and sub-systems (as appropriate) as compared to the airplane simulated (see attachment 1 and attachment 3 of this appendix);

(7) FTD systems and sub-systems, including force cueing (motion), visual, and aural (sound) systems, as appropriate (see Attachment 1 and Attachment 2 of this appendix); and

(8) Certain additional requirements, depending upon the qualification level sought, including equipment or circumstances that may become hazardous to the occupants. The sponsor may be subject to Occupational Safety and Health Administration requirements.

o. The NSPM administers the objective and subjective tests, which includes an examination of functions. The tests include a qualitative assessment of the FTD by an NSP pilot. The NSP evaluation team leader may assign other qualified personnel to assist in accomplishing the functions examination and/or the objective and subjective tests performed during an evaluation when required.

(1) Objective tests provide a basis for measuring and evaluating FTD performance and determining compliance with the requirements of this part.

(2) Subjective tests provide a basis for:

(a) Evaluating the capability of the FTD to perform over a typical utilization period;

(b) Determining that the FTD satisfactorily simulates each required task;

(c) Verifying correct operation of the FTD controls, instruments, and systems; and

(d) Demonstrating compliance with the requirements of this part.

p. The tolerances for the test parameters listed in Attachment 2 of this appendix reflect the range of tolerances acceptable to the NSPM for FTD validation and are not to be confused with design tolerances specified for FTD manufacture. In making decisions regarding tests and test results, the NSPM relies on the use of operational and engineering judgment in the application of data (including consideration of the way in which the flight test was flown and way the data was gathered and applied) data presentations, and the applicable tolerances for each test.

q. In addition to the scheduled continuing qualification evaluation, each FTD is subject to evaluations conducted by the NSPM at any time without prior notification to the sponsor. Such evaluations would be accomplished in a normal manner (i.e., requiring exclusive use of the FTD for the conduct of objective and subjective tests and an examination of functions) if the FTD is not being used for flight crewmember training, testing, or checking. However, if the FTD were being used, the evaluation would be conducted in a non-exclusive manner. This non-exclusive evaluation will be conducted by the FTD evaluator accompanying the check airman, instructor, Aircrew Program Designee (APD), or FAA inspector aboard the FTD along with the student(s) and observing the operation of the FTD during the training, testing, or checking activities.

r. Problems with objective test results are handled as follows:

(1) If a problem with an objective test result is detected by the NSP evaluation team during an evaluation, the test may be repeated or the QTG may be amended.

(2) If it is determined that the results of an objective test do not support the qualification level requested but do support a lower level, the NSPM may qualify the FTD at a lower level. For example, if a Level 6 evaluation is requested, but the FTD fails to meet the spiral stability test tolerances, it could be qualified at Level 5.

s. After an FTD is successfully evaluated, the NSPM issues a Statement of Qualification (SOQ) to the sponsor, The NSPM recommends the FTD to the TPAA, who will approve the FTD for use in a flight training program. The SOQ will be issued at the satisfactory conclusion of the initial or continuing qualification evaluation and will list the tasks for which the FTD is qualified, referencing the tasks described in Table B1B in attachment 1. However, it is the sponsor's responsibility to obtain TPAA approval prior to using the FTD in an FAA-approved flight training program.

t. Under normal circumstances, the NSPM establishes a date for the initial or upgrade evaluation within ten (10) working days after determining that a complete QTG is acceptable. Unusual circumstances may warrant establishing an evaluation date before this determination is made. A sponsor may schedule an evaluation date as early as 6 months in advance. However, there may be a delay of 45 days or more in rescheduling and completing the evaluation if the sponsor is unable to meet the scheduled date. See Attachment 4, Figure B4A, Sample Request for Initial, Upgrade, or Reinstatement Evaluation.

u. The numbering system used for objective test results in the QTG should closely follow the numbering system set out in Attachment 2, FTD Objective Tests, Table B2A.

v. Contact the NSPM or visit the NSPM Web site for additional information regarding the preferred qualifications of pilots used to meet the requirements of § 60.15(d).

w. Examples of the exclusions for which the FTD might not have been subjectively tested by the sponsor or the NSPM and for which qualification might not be sought or granted, as described in § 60.15(g)(6), include engine out maneuvers or circling approaches.

12. Additional Qualifications for Currently Qualified FSTDs (§ 60.16)

No additional regulatory or informational material applies to § 60.16, Additional Qualifications for a Currently Qualified FTD.

End Information

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13. Previously Qualified FSTDs (§ 60.17)

Begin QPS Requirements

a. In instances where a sponsor plans to remove an FTD from active status for a period of less than two years, the following procedures apply:

(1) The NSPM must be notified in writing and the notification must include an estimate of the period that the FTD will be inactive;

(2) Continuing Qualification evaluations will not be scheduled during the inactive period;

(3) The NSPM will remove the FTD from the list of qualified FSTDs on a mutually established date not later than the date on which the first missed continuing qualification evaluation would have been scheduled;

(4) Before the FTD is restored to qualified status, it must be evaluated by the NSPM. The evaluation content and the time required to accomplish the evaluation is based on the number of continuing qualification evaluations and sponsor-conducted quarterly inspections missed during the period of inactivity.

(5) The sponsor must notify the NSPM of any changes to the original scheduled time out of service;

b. FTDs qualified prior to May 30, 2008, and replacement FTD systems, are not required to meet the general FTD requirements, the objective test requirements, and the subjective test requirements of Attachments 1, 2, and 3 of this appendix as long as the FTD continues to meet the test requirements contained in the MQTG developed under the original qualification basis.

c. [Reserved]

End QPS Requirements

Begin Information

d. Other certificate holders or persons desiring to use an FTD may contract with FTD sponsors to use FTDs previously qualified at a particular level for an airplane type and approved for use within an FAA-approved flight training program. Such FTDs are not required to undergo an additional qualification process, except as described in § 60.16.

e. Each FTD user must obtain approval from the appropriate TPAA to use any FTD in an FAA-approved flight training program.

f. The intent of the requirement listed in §60.17(b), for each FTD to have a Statement of Qualification within 6 years, is to have the availability of that statement (including the configuration list and the limitations to authorizations) to provide a complete picture of the FTD inventory regulated by the FAA. The issuance of the statement will not require any additional evaluation or require any adjustment to the evaluation basis for the FTD.

g. Downgrading of an FTD is a permanent change in qualification level and will necessitate the issuance of a revised Statement of Qualification to reflect the revised qualification level, as appropriate. If a temporary restriction is placed on an FTD because of a missing, malfunctioning, or inoperative component or on-going repairs, the restriction is not a permanent change in qualification level. Instead, the restriction is temporary and is removed when the reason for the restriction has been resolved.

h. It is not the intent of the NSPM to discourage the improvement of existing simulation (e.g., the ''updating'' of a control loading system, or the replacement of the IOS with a more capable unit) by requiring the ''updated'' device to meet the qualification standards current at the time of the update. Depending on the extent of the update, the NSPM may require that the updated device be evaluated and may require that an evaluation include all or a portion of the elements of an initial evaluation. However, the standards against which the device would be evaluated are those that are found in the MQTG for that device.

i. The NSPM will determine the evaluation criteria for an FTD that has been removed from active status for a prolonged period. The criteria will be based on the number of continuing qualification evaluations and quarterly inspections missed during the period of inactivity. For example, if the FTD were out of service for a 1 year period, it would be necessary to complete the entire QTG, since all of the quarterly evaluations would have been missed. The NSPM will also consider how the FTD was stored, whether parts were removed from the FTD and whether the FTD was disassembled.

j. The FTD will normally be requalified using the FAA-approved MQTG and the criteria that was in effect prior to its removal from qualification. However, inactive periods of 2 years or more will require requalification under the standards in effect and current at the time of requalification.

End Information

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14. Inspection, Continuing Qualification, Evaluation, and Maintenance Requirements (§ 60.19)

Begin QPS Requirement

a. The sponsor must conduct a minimum of four evenly spaced inspections throughout the year. The objective test sequence and content of each inspection in this sequence must be developed by the sponsor and must be acceptable to the NSPM.

b. The description of the functional preflight inspection must be contained in the sponsor's QMS.

c. Record ''functional preflight'' in the FTD discrepancy log book or other acceptable location, including any item found to be missing, malfunctioning, or inoperative.

d. During the continuing qualification evaluation conducted by the NSPM, the sponsor must also provide a person knowledgeable about the operation of the aircraft and the operation of the FTD.

End QPS Requirements

Begin Information

e. The sponsor's test sequence and the content of each quarterly inspection required in §60.19(a)(1) should include a balance and a mix from the objective test requirement areas listed as follows:

(1) Performance.

(2) Handling qualities.

(3) Motion system (where appropriate).

(4) Visual system (where appropriate).

(5) Sound system (where appropriate).

(6) Other FTD systems.

f. If the NSP evaluator plans to accomplish specific tests during a normal continuing qualification evaluation that requires the use of special equipment or technicians, the sponsor will be notified as far in advance of the evaluation as practical; but not less than 72 hours. Examples of such tests include latencies, control sweeps, or motion or visual system tests.

g. The continuing qualification evaluations described in §60.19(b) will normally require 4 hours of FTD time. However, flexibility is necessary to address abnormal situations or situations involving aircraft with additional levels of complexity (e.g., computer controlled aircraft). The sponsor should anticipate that some tests may require additional time. The continuing qualification evaluations will consist of the following:

(1) Review of the results of the quarterly inspections conducted by the sponsor since the last scheduled continuing qualification evaluation.

(2) A selection of approximately 8 to 15 objective tests from the MQTG that provide an adequate opportunity to evaluate the performance of the FTD. The tests chosen will be performed either automatically or manually and should be able to be conducted within approximately one-third (1/3) of the allotted FTD time.

(3) A subjective evaluation of the FTD to perform a representative sampling of the tasks set out in attachment 3 of this appendix. This portion of the evaluation should take approximately two-thirds (2/3) of the allotted FTD time.

(4) An examination of the functions of the FTD may include the motion system, visual system, sound system as applicable, instructor operating station, and the normal functions and simulated malfunctions of the airplane systems. This examination is normally accomplished simultaneously with the subjective evaluation requirements.

h. The requirement established in § 60.19(b)(4) regarding the frequency of NSPM-conducted continuing qualification evaluations for each FTD is typically 12 months. However, the establishment and satisfactory implementation of an approved QMS for a sponsor will provide a basis for adjusting the frequency of evaluations to exceed 12-month intervals.

15. Logging FSTD Discrepancies (§ 60.20)

No additional regulatory or informational material applies to § 60.20. Logging FTD Discrepancies.

16. Interim Qualification of FSTDs for New Airplane Types or Models (§ 60.21)

No additional regulatory or informational material applies to § 60.21, Interim Qualification of FTDs for New Airplane Types or Models.

End Information

17. Modifications to FSTDs (§ 60.23)

Begin QPS Requirements

a. The notification described in § 60.23(c)(2) must include a complete description of the planned modification, with a description of the operational and engineering effect the proposed modification will have on the operation of the FTD and the results that are expected with the modification incorporated.

b. Prior to using the modified FTD:

(1) All the applicable objective tests completed with the modification incorporated, including any necessary updates to the MQTG (e.g., accomplishment of FSTD Directives) must be acceptable to the NSPM; and

(2) The sponsor must provide the NSPM with a statement signed by the MR that the factors listed in § 60.15(b) are addressed by the appropriate personnel as described in that section.

End QPS Requirements

Begin Information

c. FSTD Directives are considered modification of an FTD. See Attachment 4 for a sample index of effective FSTD Directives. See Attachment 6 for a list of all effective FSTD Directives applicable to Airplane FTDs.

End Information

18. Operation with Missing, Malfunctioning, or Inoperative Components (§ 60.25)

Begin Information

a. The sponsor's responsibility with respect to § 60.25(a) is satisfied when the sponsor fairly and accurately advises the user of the current status of an FTD, including any missing, malfunctioning, or inoperative (MMI) component(s).

b. If the 29th or 30th day of the 30-day period described in § 60.25(b) is on a Saturday, a Sunday, or a holiday, the FAA will extend the deadline until the next business day.

c. In accordance with the authorization described in § 60.25(b), the sponsor may develop a discrepancy prioritizing system to accomplish repairs based on the level of impact on the capability of the FTD. Repairs having a larger impact on the FTD's ability to provide the required training, evaluation, or flight experience will have a higher priority for repair or replacement.

End Information

19. Automatic Loss of Qualification and Procedures for Restoration of Qualification (§ 60.27)

Begin Information

If the sponsor provides a plan for how the FTD will be maintained during its out-of-service period (e.g., periodic exercise of mechanical, hydraulic, and electrical systems; routine replacement of hydraulic fluid; control of the environmental factors in which the FTD is to be maintained) there is a greater likelihood that the NSPM will be able to determine the amount of testing that required for requalification.

End Information

20. Other Losses of Qualification and Procedures for Restoration of Qualification (§ 60.29)

Begin Information

If the sponsor provides a plan for how the FTD will be maintained during its out-of-service period (e.g., periodic exercise of mechanical, hydraulic, and electrical systems; routine replacement of hydraulic fluid; control of the environmental factors in which the FTD is to be maintained) there is a greater likelihood that the NSPM will be able to determine the amount of testing that required for requalification.

End Information

21. Recordkeeping and Reporting (§ 60.31)

Begin QPS Requirements

a. FTD modifications can include hardware or software changes. For FTD modifications involving software programming changes, the record required by § 60.31(a)(2) must consist of the name of the aircraft system software, aerodynamic model, or engine model change, the date of the change, a summary of the change, and the reason for the change.

b. If a coded form for record keeping is used, it must provide for the preservation and retrieval of information with appropriate security or controls to prevent the inappropriate alteration of such records after the fact.

End QPS Requirements

22. Applications, Logbooks, Reports, and Records: Fraud, Falsification, or Incorrect Statements (§ 60.33)

Begin Information

No additional regulatory or informational material applies to § 60.33, Applications, Logbooks, Reports, and Records: Fraud, Falsification, or Incorrect Statements.

End Information

23. [Reserved]

24. Levels of FTD

Begin Information

a. The following is a general description of each level of FTD. Detailed standards and tests for the various levels of FTDs are fully defined in Attachments 1 through 3 of this appendix.

(1) *Level 4*. A device that may have an open airplane-specific flight deck area, or an enclosed airplane-specific flight deck and at least one operating system. Air/ground logic is required (no aerodynamic programming required). All displays may be flat/LCD panel representations or actual representations of displays in the aircraft. All controls, switches, and knobs may be touch sensitive activation (not capable of manual manipulation of the flight controls) or may physically replicate the aircraft in control operation.

(2) *Level 5*. A device that may have an open airplane-specific flight deck area, or an enclosed airplane-specific flight deck and a generic aerodynamic program with at least one operating system and control loading that is representative of the simulated airplane only at an approach speed and configuration. All displays may be flat/LCD panel representations or actual representations of displays in the aircraft. Primary and secondary flight controls (*e.g.*, rudder, aileron, elevator, flaps, spoilers/speed brakes, engine controls, landing gear, nose wheel steering, trim, brakes) must be physical controls. All other controls, switches, and knobs may be touch sensitive activation.

(3) *Level 6*. A device that has an enclosed airplane-specific flight deck and aerodynamic program with all applicable airplane systems operating and control loading that is representative of the simulated airplane throughout its ground and flight envelope and significant sound representation. All displays may be flat/LCD panel representations or actual representations of displays in the aircraft, but all controls, switches, and knobs must physically replicate the aircraft in control operation.

End Information

25. FSTD Qualification on the Basis of a Bilateral Aviation Safety Agreement (BASA) (§ 60.37)

Begin Information

No additional regulatory or informational material applies to § 60.37, FSTD Qualification on the Basis of a Bilateral Aviation Safety Agreement (BASA).

End Information

Attachment 1 to Appendix B to Part 60—General FTD Requirements

Begin QPS Requirements

1. Requirements

a. Certain requirements included in this appendix must be supported with a Statement of Compliance and Capability (SOC), which may include objective and subjective tests. The SOC will confirm that the requirement was satisfied, and describe how the requirement was met. The requirements for SOCs and tests are indicated in the ''General FTD Requirements'' column in Table B1A of this appendix.

b. Table B1A describes the requirements for the indicated level of FTD. Many devices include operational systems or functions that exceed the requirements outlined in this section. In any event, all systems will be tested and evaluated in accordance with this appendix to ensure proper operation.

End QPS Requirements

Begin Information

2. Discussion

a. This attachment describes the general requirements for qualifying Level 4 through Level 6 FTDs. The sponsor should also consult the objectives tests in Attachment 2 and the examination of functions and subjective tests listed in Attachment 3 to determine the complete requirements for a specific level FTD.

b. The material contained in this attachment is divided into the following categories:

(1) General flight deck configuration.
(2) Programming.
(3) Equipment operation.
(4) Equipment and facilities for instructor/evaluator functions.
(5) Motion system.
(6) Visual system.
(7) Sound system.

c. Table B1A provides the standards for the General FTD Requirements.

d. Table B1B provides the tasks that the sponsor will examine to determine whether the FSTD satisfactorily meets the requirements for flight crew training, testing, and experience, and provides the tasks for which the simulator may be qualified.

e. Table B1C provides the functions that an instructor/check airman must be able to control in the simulator.

f. It is not required that all of the tasks that appear on the List of Qualified Tasks (part of the SOQ) be accomplished during the initial or continuing qualification evaluation.

End Information

TABLE B1A.—MINIMUM FTD REQUIREMENTS

<<<QPS requirements>>>					<<Information>>
Number	General FTD requirements	FTD level			Notes
		4	5	6	
1. General Flight Deck Configuration					

TABLE B1A.—MINIMUM FTD REQUIREMENTS—Continued

<<<QPS requirements>>>					<<Information>>
Number	General FTD requirements	FTD level			Notes
		4	5	6	
1.a.	The FTD must have a flight deck that is a replica of the airplane simulated with controls, equipment, observable flight deck indicators, circuit breakers, and bulkheads properly located, functionally accurate and replicating the airplane. The direction of movement of controls and switches must be identical to that in the airplane. Pilot seat(s) must afford the capability for the occupant to be able to achieve the design "eye position." Equipment for the operation of the flight deck windows must be included, but the actual windows need not be operable. Fire axes, extinguishers, and spare light bulbs must be available in the flight simulator, but may be relocated to a suitable location as near as practical to the original position. Fire axes, landing gear pins, and any similar purpose instruments need only be represented in silhouette. An SOC is required.			X	For FTD purposes, the flight deck consists of all that space forward of a cross section of the fuselage at the most extreme aft setting of the pilots' seats including additional, required flight crewmember duty stations and those required bulkheads aft of the pilot seats. For clarification, bulkheads containing only items such as landing gear pin storage compartments, fire axes or extinguishers, spare light bulbs, aircraft documents pouches are not considered essential and may be omitted.
1.b.	The FTD must have equipment (e.g., instruments, panels, systems, circuit breakers, and controls) simulated sufficiently for the authorized training/checking events to be accomplished. The installed equipment must be located in a spatially correct location and may be in a flight deck or an open flight deck area. Additional equipment required for the authorized training/checking events must be available in the FTD, but may be located in a suitable location as near as practical to the spatially correct position. Actuation of equipment must replicate the appropriate function in the airplane. Fire axes, landing gear pins, and any similar purpose instruments need only be represented in silhouette. An SOC is required.	X	X		
2. Programming					
2.a.	The FTD must provide the proper effect of aerodynamic changes for the combinations of drag and thrust normally encountered in flight. This must include the effect of change in airplane attitude, thrust, drag, altitude, temperature, and configuration. Level 6 additionally requires the effects of changes in gross weight and center of gravity. Level 5 requires only generic aerodynamic programming. An SOC is required.		X	X	
2.b.	The FTD must have the computer (analog or digital) capability (i.e., capacity, accuracy, resolution, and dynamic response) needed to meet the qualification level sought. An SOC is required.	X	X	X	

TABLE B1A.—MINIMUM FTD REQUIREMENTS—Continued

<<<QPS requirements>>>					<<Information>>
Number	General FTD requirements	FTD level			Notes
		4	5	6	
2.c.	Relative responses of the flight deck instruments must be measured by latency tests, or transport delay tests, and may not exceed 300 milliseconds. The instruments must respond to abrupt input at the pilot's position within the allotted time, but not before the time when the airplane would respond under the same conditions. • Latency: The FTD instrument and, if applicable, the motion system and the visual system response must not be prior to that time when the airplane responds and may respond up to 300 milliseconds after that time under the same conditions. • Transport Delay: As an alternative to the Latency requirement, a transport delay objective test may be used to demonstrate that the FTD system does not exceed the specified limit. The sponsor must measure all the delay encountered by a step signal migrating from the pilot's control through all the simulation software modules in the correct order, using a handshaking protocol, finally through the normal output interfaces to the instrument display and, if applicable, the motion system, and the visual system. An objective test is required.		X	X	The intent is to verify that the FTD provides instrument cues that are, within the stated time delays, like the airplane responses. For airplane response, acceleration in the appropriate, corresponding rotational axis is preferred. Additional information regarding Latency and Transport Delay testing may be found in Appendix A, Attachment 2, paragraph 14.
3. Equipment Operation					
3.a.	All relevant instrument indications involved in the simulation of the airplane must automatically respond to control movement or external disturbances to the simulated airplane; e.g., turbulence or winds. A subjective test is required.		X	X	
3.b.	Navigation equipment must be installed and operate within the tolerances applicable for the airplane. Level 6 must also include communication equipment (inter-phone and air/ground) like that in the airplane and, if appropriate to the operation being conducted, an oxygen mask microphone system. Level 5 need have only that navigation equipment necessary to fly an instrument approach. A subjective test is required.		X	X	
3.c.	Installed systems must simulate the applicable airplane system operation, both on the ground and in flight. Installed systems must be operative to the extent that applicable normal, abnormal, and emergency operating procedures included in the sponsor's training programs can be accomplished. Level 6 must simulate all applicable airplane flight, navigation, and systems operation. Level 5 must have at least functional flight and navigational controls, displays, and instrumentation. Level 4 must have at least one airplane system installed and functional. A subjective test is required.	X	X	X	
3.d.	The lighting environment for panels and instruments must be sufficient for the operation being conducted. A subjective test is required.	X	X	X	Back-lighted panels and instruments may be installed but are not required.
3.e.	The FTD must provide control forces and control travel that correspond to the airplane being simulated. Control forces must react in the same manner as in the airplane under the same flight conditions. An objective test is required.			X	

TABLE B1A.—MINIMUM FTD REQUIREMENTS—Continued

<<<QPS requirements>>>					<<Information>>
Number	General FTD requirements	FTD level			Notes
		4	5	6	
3.f.	The FTD must provide control forces and control travel of sufficient precision to manually fly an instrument approach. A subjective test is required.		X		
4. Instructor or Evaluator Facilities					
4.a.	In addition to the flight crewmember stations, suitable seating arrangements for an instructor/check airman and FAA Inspector must be available. These seats must provide adequate view of crewmember's panel(s). A subjective test is required.	X	X	X	These seats need not be a replica of an aircraft seat and may be as simple as an office chair placed in an appropriate position.
4.b.	The FTD must have instructor controls that permit activation of normal, abnormal, and emergency conditions as may be appropriate. Once activated, proper system operation must result from system management by the crew and not require input from the instructor controls. A subjective test is required.	X	X	X	
5. Motion System (not required)					
5.a.	The FTD may have a motion system, if desired, although it is not required. If a motion system is installed and additional training, testing, or checking credits are being sought on the basis of having a motion system, the motion system operation may not be distracting and must be coupled closely to provide integrated sensory cues. The motion system must also respond to abrupt input at the pilot's position within the allotted time, but not before the time when the airplane would respond under the same conditions. A subjective test is required.		X	X	The motion system standards set out in part 60, Appendix A for at least Level A simulators are acceptable.
5.b.	If a motion system is installed, it must be measured by latency tests or transport delay tests and may not exceed 300 milliseconds. Instrument response may not occur prior to motion onset. An objective test is required.			X	The motion system standards set out in part 60, Appendix A for at least Level A simulators are acceptable.
6. Visual System					
6.a.	The FTD may have a visual system, if desired, although it is not required. If a visual system is installed, it must meet the following criteria:	X	X	X	
6.a.1. ...	The visual system must respond to abrupt input at the pilot's position. An SOC is required. A subjective test is required.		X	X	
6.a.2. ...	The visual system must be at least a single channel, non-collimated display. An SOC is required. A subjective test is required.	X	X	X	
6.a.3. ...	The visual system must provide at least a field of view of 18° vertical/24° horizontal for the pilot flying. An SOC is required.	X	X	X	
6.a.4. ...	The visual system must provide for a maximum parallax of 10° per pilot. An SOC is required.	X	X	X	
6.a.5. ...	The visual scene content may not be distracting ..... An SOC is required. A subjective test is required.	X	X	X	

TABLE B1A.—MINIMUM FTD REQUIREMENTS—Continued

<<<QPS requirements>>>					<<Information>>
Number	General FTD requirements	FTD level			Notes
		4	5	6	
6.a.6. ...	The minimum distance from the pilot's eye position to the surface of a direct view display may not be less than the distance to any front panel instrument. An SOC is required.	X	X	X	
6.a.7. ...	The visual system must provide for a minimum resolution of 5 arc-minutes for both computed and displayed pixel size. An SOC is required.	X	X	X	
6.b.	If a visual system is installed and additional training, testing, or checking credits are being sought on the basis of having a visual system, a visual system meeting the standards set out for at least a Level A FFS (see Appendix A of this part) will be required. A ''direct-view,'' non-collimated visual system (with the other requirements for a Level A visual system met) may be considered satisfactory for those installations where the visual system design ''eye point'' is appropriately adjusted for each pilot's position such that the parallax error is at or less than 10° simultaneously for each pilot. An SOC is required. An objective test is required.			X	Directly projected, non-collimated visual displays may prove to be unacceptable for dual pilot applications.
7. Sound System					
7.a.	The FTD must simulate significant flight deck sounds resulting from pilot actions that correspond to those heard in the airplane.			X	

TABLE B1B.—TABLE OF TASKS VS. FTD LEVEL

<<<QPS requirements>>>					<<Information>>
Number	Subjective requirements In order to be qualified at the FTD qualification level indicated, the FTD must be able to perform at least the tasks associated with that level of qualification. See Notes 1 and 2 at the end of the Table	FTD level			Notes
		4	5	6	
1. Preflight Procedures					
1.a.	Preflight Inspection (flight deck only)	A	A	X	
1.b.	Engine Start	A	A	X	
1.c.	Pre-takeoff Checks	A	A	X	
2. Takeoff and Departure Phase					
2.a.	Rejected Takeoff (requires visual system)			A	
2.b.	Departure Procedure		X	X	
3. In-flight Maneuvers					
3.a.	a. Steep Turns		X	X	
3.b.	b. Approaches to Stalls		A	X	
3.c.	c. Engine Failure (procedures only)—Multiengine Airplane		A	X	
3.d.	d. Engine Failure (procedures only)—Single-Engine Airplane.		A	X	
3.e.	e. Specific Flight Characteristics incorporated into the user's FAA approved flight training program.	A	A	A	

TABLE B1B.—TABLE OF TASKS VS. FTD LEVEL—Continued

<<<QPS requirements>>>					<<Information>>
Number	Subjective requirements In order to be qualified at the FTD qualification level indicated, the FTD must be able to perform at least the tasks associated with that level of qualification. See Notes 1 and 2 at the end of the Table	FTD level			Notes
		4	5	6	
4. Instrument Procedures					
4.a.	Standard Terminal Arrival/Flight Management System Arrival.		A	X	
4.b.	Holding		A	X	
4.c.	Precision Instrument, all engines operating		A	X	e.g., Autopilot, Manual (Flt. Dir. Assisted), Manual (Raw Data).
4.d.	Non-precision Instrument, all engines operating		A	X	e.g., NDB, VOR, VOR/DME, VOR/TAC, RNAV, LOC, LOC/BC, ADF, and SDF.
4.e.	Circling Approach (requires visual system)			A	
4.f.	Missed Approach		A	X	
5. Normal and Abnormal Procedures					
5.a.	Engine (including shutdown and restart procedures only) ..	A	A	X	
5.b.	Fuel System	A	A	X	
5.c.	Electrical System	A	A	X	
5.d.	Hydraulic System	A	A	X	
5.e.	Environmental and Pressurization Systems	A	A	X	
5.f.	Fire Detection and Extinguisher Systems	A	A	X	
5.g.	Navigation and Avionics Systems	A	A	X	
5.h.	Automatic Flight Control System, Electronic Flight Instrument System, and Related Subsystems.	A	A	X	
5.i.	Flight Control Systems	A	A	X	
5.j.	Anti-ice and Deice Systems	A	A	X	
5.k.	Aircraft and Personal Emergency Equipment	A	A	X	
6. Emergency Procedures					
6.a.	Emergency Descent (maximum rate)		A	X	
6.b.	Inflight Fire and Smoke Removal		A	X	
6.c.	Rapid Decompression		A	X	
6.d.	Emergency Evacuation	A	A	X	
7. Postflight Procedures					
7.a.	After-Landing Procedures	A	A	X	
7.b.	Parking and Securing	A	A	X	

Note 1: An ''A'' in the table indicates that the system, task, or procedure, although not required to be present, may be examined if the appropriate airplane system is simulated in the FTD and is working properly.

Note 2: Items not installed or not functional on the FTD and not appearing on the SOQ Configuration List, are not required to be listed as exceptions on the SOQ.

TABLE B1C.—TABLE OF TASKS VS. FTD LEVEL

<<<QPS requirements>>>					<<Information>>
Number	Subject requirements In order to be qualified at the FTD qualification level indicated, the FTD must be able to perform at least the tasks associated with that level of qualification.	FTD level			Notes
		4	5	6	
1. Instructor Operating Station (IOS)					
1.a.	Power switch(es)	X	X	X	
1.b.	Airplane conditions	A	X	X	e.g., GW, CG, Fuel loading, Systems, Ground. Crew.
1.c.	Airports/Runways	X	X	X	e.g., Selection, Surface, Presets, Lighting controls.
1.d.	Environmental controls	X	X	X	e.g., Temp, Wind.
1.e.	Airplane system malfunctions (Insertion/deletion)	A	X	X	
1.f.	Locks, Freezes, and Repositioning	X	X	X	
1.g.	Sound Controls. (On/off/adjustment)	X	X	X	
1.h.	Motion/Control Loading System, as appropriate. On/off/emergency stop.	A	X	X	
2. Observer Seats/Stations					
2.a.	Position/Adjustment/Positive restraint system	X	X	X	

Attachment 2 to Appendix B to Part 60—Flight Training Device (FTD) Objective Tests

Begin Information

1. Discussion

a. For the purposes of this attachment, the flight conditions specified in the Flight Conditions Column of Table B2A, are defined as follows:

(1) Ground—on ground, independent of airplane configuration;

(2) Take-off—gear down with flaps/slats in any certified takeoff position;

(3) First segment climb—gear down with flaps/slats in any certified takeoff position (normally not above 50 ft AGL);

(4) Second segment climb—gear up with flaps/slats in any certified takeoff position (normally between 50 ft and 400 ft AGL);

(5) Clean—flaps/slats retracted and gear up;

(6) Cruise—clean configuration at cruise altitude and airspeed;

(7) Approach—gear up or down with flaps/slats at any normal approach position as recommended by the airplane manufacturer; and

(8) Landing—gear down with flaps/slats in any certified landing position.

b. The format for numbering the objective tests in Appendix A, Attachment 2, Table A2A, and the objective tests in Appendix B, Attachment 2, Table B2A, is identical. However, each test required for FFSs is not necessarily required for FTDs. Also, each test required for FTDs is not necessarily required for FFSs. Therefore, when a test number (or series of numbers) is not required, the term ''Reserved'' is used in the table at that location. Following this numbering format provides a degree of commonality between the two tables and substantially reduces the potential for confusion when referring to objective test numbers for either FFSs or FTDs.

c. The reader is encouraged to review the Airplane Flight Simulator Evaluation Handbook, Volumes I and II, published by the Royal Aeronautical Society, London, UK, and FAA Advisory Circulars (AC) 25–7, as may be amended, Flight Test Guide for Certification of Transport Category Airplanes, and (AC) 23–8, as may be amended, Flight Test Guide for Certification of Part 23 Airplanes, for references and examples regarding flight testing requirements and techniques.

d. If relevant winds are present in the objective data, the wind vector should be clearly noted as part of the data presentation, expressed in conventional terminology, and related to the runway being used for the test.

e. A Level 4 FTD does not require objective tests and therefore, Level 4 is not addressed in the following table.

End Information

Begin QPS Requirements

2. Test Requirements

a. The ground and flight tests required for qualification are listed in Table B2A Objective Tests. Computer generated FTD test results must be provided for each test except where an alternate test is specifically authorized by the NSPM. If a flight condition or operating condition is required for the test but does not apply to the airplane being simulated or to the qualification level sought, it may be disregarded (e.g., an engine out missed approach for a single-engine airplane; a maneuver using reverse thrust for an airplane without reverse thrust capability). Each test result is compared against the validation data described in § 60.13, and in Appendix B. The results must be produced on an appropriate recording device acceptable to the NSPM and must include FTD number, date, time, conditions, tolerances, and appropriate dependent variables portrayed in comparison to the validation data. Time histories are required unless otherwise indicated in Table B2A. All results must be labeled using the tolerances and units given.

b. Table B2A in this attachment sets out the test results required, including the parameters, tolerances, and flight conditions for FTD validation. Tolerances are provided for the listed tests because mathematical modeling and acquisition and development of reference data are often inexact. All tolerances listed in the following tables are applied to FTD performance. When two tolerance values are given for a parameter, the less restrictive may be used unless otherwise indicated.

c. Certain tests included in this attachment must be supported with a Statement of Compliance and Capability (SOC). In Table B2A, requirements for SOCs are indicated in the ''Test Details'' column.

d. When operational or engineering judgment is used in making assessments for flight test data applications for FTD validity, such judgment may not be limited to a single parameter. For example, data that exhibit rapid variations of the measured parameters may require interpolations or a ''best fit'' data section. All relevant parameters related to a given maneuver or flight condition must be provided to allow overall interpretation.

When it is difficult or impossible to match FTD to airplane data throughout a time history, differences must be justified by providing a comparison of other related variables for the condition being assessed.

e. It is not acceptable to program the FTD so that the mathematical modeling is correct only at the validation test points. Unless noted otherwise, tests must represent airplane performance and handling qualities at operating weights and centers of gravity (CG) typical of normal operation. If a test is supported by aircraft data at one extreme weight or CG, another test supported by aircraft data at mid-conditions or as close as possible to the other extreme is necessary. Certain tests that are relevant only at one extreme CG or weight condition need not be repeated at the other extreme. The results of the tests for Level 6 are expected to be indicative of the device's performance and handling qualities throughout all of the following:

(1) The airplane weight and CG envelope;

(2) The operational envelope; and

(3) Varying atmospheric ambient and environmental conditions—including the extremes authorized for the respective airplane or set of airplanes.

f. When comparing the parameters listed to those of the airplane, sufficient data must also be provided to verify the correct flight condition and airplane configuration changes. For example, to show that control force is within the parameters for a static stability test, data to show the correct airspeed, power, thrust or torque, airplane configuration, altitude, and other appropriate datum identification parameters must also be given. If comparing short period dynamics, normal acceleration may be used to establish a match to the airplane, but airspeed, altitude, control input, airplane configuration, and other appropriate data must also be given. If comparing landing gear change dynamics, pitch, airspeed, and altitude may be used to establish a match to the airplane, but landing gear position must also be provided. All airspeed values must be properly annotated (e.g., indicated versus calibrated). In addition, the same variables must be used for comparison (e.g., compare inches to inches rather than inches to centimeters).

g. The QTG provided by the sponsor must clearly describe how the FTD will be set up and operated for each test. Each FTD subsystem may be tested independently, but overall integrated testing of the FTD must be accomplished to assure that the total FTD system meets the prescribed standards. A manual test procedure with explicit and detailed steps for completing each test must also be provided.

h. In those cases where the objective test results authorize a ''snapshot test'' or a ''series of snapshot test results'' in lieu of a time-history result, the sponsor or other data provider must ensure that a steady state condition exists at the instant of time captured by the ''snapshot.'' The steady state condition must exist from 4 seconds prior to, through 1 second following, the instant of time captured by the snapshot.

i. For previously qualified FTDs, the tests and tolerances of this attachment may be used in subsequent continuing qualification evaluations for any given test if the sponsor has submitted a proposed MQTG revision to the NSPM and has received NSPM approval.

j. FTDs are evaluated and qualified with an engine model simulating the airplane data supplier's flight test engine. For qualification of alternative engine models (either variations of the flight test engines or other manufacturer's engines) additional tests with the alternative engine models may be required. This Attachment contains guidelines for alternative engines.

k. Testing Computer Controlled Airplane (CCA) simulators, or other highly augmented airplane simulators, flight test data is required for the Normal (N) and/or Non-normal (NN) control states, as indicated in this Attachment. Where test results are independent of control state, Normal or Non-normal control data may be used. All tests in Table A2A require test results in the Normal control state unless specifically noted otherwise in the Test Details section following the CCA designation. The NSPM will determine what tests are appropriate for airplane simulation data. When making this determination, the NSPM may require other levels of control state degradation for specific airplane tests. Where Non-normal control states are required, test data must be provided for one or more Non-normal control states, and must include the least augmented state. Where applicable, flight test data must record Normal and Non-normal states for:

(1) Pilot controller deflections or electronically generated inputs, including location of input; and

(2) Flight control surface positions unless test results are not affected by, or are independent of, surface positions.

l. Tests of handling qualities must include validation of augmentation devices. FTDs for highly augmented airplanes will be validated both in the unaugmented configuration (or failure state with the maximum permitted degradation in handling qualities) and the augmented configuration. Where various levels of handling qualities result from failure states, validation of the effect of the failure is necessary. Requirements for testing will be mutually agreed to between the sponsor and the NSPM on a case-by-case basis.

m. Some tests will not be required for airplanes using airplane hardware in the FTD flight deck (e.g., ''side stick controller''). These exceptions are noted in Section 2 ''Handling Qualities'' in Table B2A of this attachment. However, in these cases, the sponsor must provide a statement that the airplane hardware meets the appropriate manufacturer's specifications and the sponsor must have supporting information to that fact available for NSPM review.

End QPS Requirements

TABLE B2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS

<<<QPS requirements>>>

Test		Tolerances	Flight conditions	Test details	FTD level		<<Information>>
Number	Title				5	6	Notes
1. Performance							
1.a.	(Reserved)						
1.b.	Takeoff						
1.b.1.	Ground Acceleration Time.	±5% time or ±1 sec	Takeoff	Record acceleration time for a minimum of 80% of the segment from brake release to V_R. Preliminary aircraft certification data may be used.		X	This test is required only if RTO training credit is sought.
1.b.2. through 1.b.6.	(Reserved)						

TABLE B2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>							
Test		Tolerances	Flight conditions	Test details	FTD level		<<Information>>
Number	Title				5	6	Notes
1.b.7.	Rejected Takeoff	±3% time or ±1 second.	Dry Runway	Record time for at least 80% of the segment from initiation of the Rejected Takeoff to full stop.		X	
1.b.8.	(Reserved)						
1.c.	Climb						
1.c.1.	Normal Climb all engines operating.	±3 kt airspeed, ±5% or ±100 ft/min (0.5 m/sec) climb rate.	Clean	Flight test data or airplane performance manual data may be used. Record at nominal climb speed and at nominal altitude. May be a snapshot test result. FTD performance must be recorded over an interval of at least 1,000 ft (300 m).	X	X	
1.c.2. through 1.c.4.	(Reserved)						
1.d.	(Reserved)						
1.e.	(Reserved)						
1.f.	Engines						
1.f.1.	Acceleration	Level 6: ±10% T_t, or ±0.25 sec. Level 5: ±1 sec	Approach or Landing.	Record engine power (N_1, N_2, EPR, Torque, Manifold Pressure) from idle to maximum takeoff power for a rapid (slam) throttle movement.	X	X	T_t is the total time from initial throttle movement to reaching 90% of go around power.
1.f.2.	Deceleration	Level 6: ±10% T_t, or ±0.25 sec. Level 5: ±1 sec	Ground	Record engine power (N_1, N_2, EPR, Torque, Manifold Pressure) from maximum takeoff power to idle for a rapid (slam) throttle movement.	X	X	T_t is the total time from initial throttle movement to reaching 90% decay of maximum takeoff power.
2. Handling Qualities							
	For FTDs requiring Static tests at the controls (i.e., column, wheel, rudder pedal), special test fixtures will not be required during initial or upgrade evaluations if the sponsor's QTG/MQTG shows both test fixture results and the results of an alternative approach, such as computer plots produced concurrently, that show satisfactory agreement. Repeat of the alternative method during the initial or upgrade evaluation would then satisfy this test requirement						Testing of position versus force is not applicable if forces are generated solely by use of airplane hardware in the FTD.
2.a.	Static Control Tests						
2.a.1.a. ..	Pitch Controller Position vs. Force and Surface Position Calibration.	±2 lb (0.9 daN) breakout, ±10% or ±5 lb (2.2 daN) force, ±2° elevator.	Ground	Record results for an uninterrupted control sweep to the stops.		X	

TABLE B2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>							
Test		Tolerances	Flight conditions	Test details	FTD level		<<Information>>
Number	Title				5	6	Notes
2.a.1.b. ..	Pitch Controller Position vs. Force.	±2 lb (0.9 daN) breakout, ±10% or ±5 lb (2.2 daN) force.	As determined by sponsor.	Record results during initial qualification evaluation for an uninterrupted control sweep to the stops. The recorded tolerances apply to subsequent comparisons on continuing qualification evaluations.	X		Applicable only on continuing qualification evaluations. The intent is to design the control feel for Level 5 to be able to manually fly an instrument approach; and not to compare results to flight test or other such data.
2.a.2.a. ..	Roll Controller Position vs. Force and Surface Position Calibration.	±2 lb (0.9 daN) breakout, ±10% or ±3 lb (1.3 daN) force, ±2° aileron, ±3° spoiler angle.	Ground	Record results for an uninterrupted control sweep to the stops.		X	
2.a.2.b. ..	Roll Controller Position vs. Force.	±2 lb (0.9 daN) breakout, ±10% or ±3 lb (1.3 daN) force.	As determined by sponsor.	Record results during initial qualification evaluation for an uninterrupted control sweep to the stops. The recorded tolerances apply to subsequent comparisons on continuing qualification evaluations.	X		Applicable only on continuing qualification evaluations. The intent is to design the control feel for Level 5 to be able to manually fly an instrument approach; and not to compare results to flight test or other such data.
2.a.3.a. ..	Rudder Pedal Position vs. Force and Surface Position Calibration.	±5 lb (2.2 daN) breakout, ±10% or ±5 lb (2.2 daN) force, ±27° rudder angle.	Ground	Record results for an uninterrupted control sweep to the stops.		X	
2.a.3.b. ..	Rudder Pedal Position vs. Force.	±5 lb (2.2 daN) breakout, ±10% or ±5 lb (2.2 daN) force.	As determined by sponsor.	Record results during initial qualification evaluation for an uninterrupted control sweep to the stops. The recorded tolerances apply to subsequent comparisons on continuing qualification evaluations.	X		Applicable only on continuing qualification evaluations. The intent is to design the control feel for Level 5 to be able to manually fly an instrument approach; and not to compare results to flight test or other such data.
2.a.4.	Nosewheel Steering Controller Force.	±2 lb (0.9 daN) breakout, ±10% or ±3 lb (1.3 daN) force.	Ground	Record results of an uninterrupted control sweep to the stops.		X	
2.a.5.	Rudder Pedal Steering Calibration.	±2° nosewheel angle.	Ground	Record results of an uninterrupted control sweep to the stops.		X	

TABLE B2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>							
Test		Tolerances	Flight conditions	Test details	FTD level		<<Information>>
Number	Title				5	6	Notes
2.a.6.	Pitch Trim Indicator vs. Surface Position Calibration.	±0.5° of computed trim surface angle.	Ground			X	The purpose of the test is to compare the FTD against design data or equivalent.
2.a.7.	(Reserved)						
2.a.8.	Alignment of Flight deck Throttle Lever vs. Selected Engine Parameter.	±5° of throttle lever angle or ±0.8 in (2 cm) for power control without angular travel, or ±3% N1, or ±0.03 EPR, or ±3% maximum rated manifold pressure, or ±3% torque.	Ground	Requires simultaneous recording for all engines. The tolerances apply against airplane data and between engines. In the case of propeller powered airplanes, if a propeller lever is present, it must also be checked. For airplanes with throttle "detents," all detents must be presented. May be a series of snapshot test results.		X	
2.a.9.	Brake Pedal Position vs. Force.	±5 lb (2.2 daN) or 10% force.	Ground	Two data points are required: Zero and maximum deflection. Computer output results may be used to show compliance.		X	Test not required unless RTO credit is sought.
2.b.	(Reserved)						
2.c.	Longitudinal Control Tests						
Power setting is that required for level flight unless otherwise specified.							
2.c.1.	Power Change Force.	±5 lb (2.2 daN) or, ±20% force.	Approach	May be a series of snapshot test results. Power change dynamics test as described in test 2.c.1 of Table A2A of this part will be accepted.	X	X	
2.c.2.	Flap/Slat Change Force.	±5 lb (2.2 daN) or, ±20% force.	Takeoff through initial flap retraction, and approach to landing.	May be a series of snapshot test results. Flap/Slat change dynamics test as described in test 2.c.2 of Table A2A of this part will be accepted.	X	X	
2.c.3.	(Reserved)						
2.c.4.	Gear Change Force	±5 lb (2.2 daN) or, ±20% force.	Takeoff (retraction) and Approach (extension).	May be a series of snapshot test results. Gear change dynamics test as described in test 2.c.4 of Table A2A of this part will be accepted.	X	X	
2.c.5.	Longitudinal Trim	±0.5° trim surface angle ±1° elevator ±1° pitch angle ±5% net thrust or equivalent.	Cruise, Approach, and Landing.	Record steady-state condition with wings level and thrust set for level flight. May be a series of snapshot tests Level 5 may use equivalent stick and trim controllers in lieu of elevator and trim surface.	X	X	

TABLE B2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>							
Test		Tolerances	Flight conditions	Test details	FTD level		<<Information>>
Number	Title				5	6	Notes
2.c.6.	Longitudinal Maneuvering Stability (Stick Force/g).	±5 lb (±2.2 daN) or ±10% pitch controller force Alternative method: ±1° or ±10% change of elevator.	Cruise, Approach, and Landing.	Continuous time history data or a series of snapshot tests may be used. Record results up to 30° of bank for approach and landing configurations. Record results for up to 45° of bank for the cruise configuration. The force tolerance is not applicable if forces are generated solely by the use of airplane hardware in the FTD. The alternative method applies to airplanes that do not exhibit "stick-force-per-g" characteristics.		X	
2.c.7.	Longitudinal Static Stability.	±5 lb (±2.2 daN) or ±10% pitch controller force. Alternative method: ±1° or ±10% change of elevator.	Approach	May be a series of snapshot test results. Record results for at least 2 speeds above and 2 speeds below trim speed. The force tolerance is not applicable if forces are generated solely by the use of airplane hardware in the FTD. The alternative method applies to airplanes that do not exhibit speed stability characteristics. Level 5 must exhibit positive static stability, but need not comply with the numerical tolerance.	X	X	
2.c.8.	Stall Warning (actuation of stall warning device.).	±3 kts. airspeed, ±2° bank for speeds greater than actuation of stall warning device or initial buffet.	Second Segment Climb, and Approach or Landing.	The stall maneuver must be entered with thrust at or near idle power and wings level (1g). Record the stall warning signal and initial buffet if applicable.	X	X	
2.c.9.a. ..	Phugoid Dynamics ..	±10% period, ±10% of time to ½ or double amplitude or ±.02 of damping ratio.	Cruise	The test must include whichever is less of the following: Three full cycles (six overshoots after the input is completed), or the number of cycles sufficient to determine time to ½ or double amplitude.	X		
2.c.9.b. ..	Phugoid Dynamics ..	±10% period, Representative damping.	Cruise	The test must include whichever is less of the following: Three full cycles (six overshoots after the input is completed), or the number of cycles sufficient to determine representative damping.	X		
2.c.10. ...	Short Period Dynamics.	±1.5° pitch angle or ±2°/sec pitch rate, ±0.10g acceleration..	Cruise			X	
2.d.	Lateral Directional Tests						

TABLE B2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>							
Test		Tolerances	Flight conditions	Test details	FTD level		<<Information>>
Number	Title				5	6	Notes
Power setting is that required for level flight unless otherwise specified.							
2.d.1.	(Reserved)						
2.d.2.	Roll Response (Rate).	±10% or ±2°/sec roll rate.	Cruise, and Approach or Landing.	Record results for normal roll controller deflection (one-third of maximum roll controller travel). May be combined with step input of flight deck roll controller test (see 2.d.3.).	X	X	
2.d.3.	Roll Response to Flight deck Roll Controller Step Input.	±10% or ±2° bank angle.	Approach or Landing.	Record from initiation of roll through 10 seconds after control is returned to neutral and released. May be combined with roll response (rate) test (see 2.d.2.).		X	
2.d.4.a. ..	Spiral Stability	Correct trend and ±3° or ±10% bank angle in 30 seconds.	Cruise	Record results for both directions. As an alternate test, demonstrate the lateral control required to maintain a steady turn with a bank angle of 30°.		X	Airplane data averaged from multiple tests in same direction may be used.
2.d.4.b. ..	Spiral Stability	Correct trend	Cruise		X		Airplane data averaged from multiple tests in same direction may be used.
2.d.5.	(Reserved)						
2.d.6.a. ..	Rudder Response ...	±2°/sec or ±10% yaw rate.	Approach or Landing.	A rudder step input of 20%–30% rudder pedal throw must be used. Not required if rudder input and response is shown in Dutch Roll test (test 2.d.7.).		X	
2.d.6.b. ..	Rudder Response ...	Roll rate ±2°/sec, bank angle ±3°.	Approach or Landing.	May be roll response to a given rudder deflection.	X		
2.d.7.	Dutch Roll (Yaw Damper OFF).	±0.5 sec. or ±10% of period, ±10% of time to ½ or double amplitude or ±.02 of damping ratio.	Cruise, and Approach or Landing.	Record results for at least 6 complete cycles with stability augmentation OFF, or the number of cycles sufficient to determine time to ½ or double amplitude.		X	
2.d.8.	Steady State Sideslip.	For given rudder position ±2° bank angle, ±1° sideslip angle, ±10% or ±2° aileron, ±10% or ±5° spoiler or equivalent roll, controller position or force.	Approach or Landing.	May be a series of snapshot test results. Propeller driven airplanes must test in each direction. Sideslip angle is matched only for repeatability and only on continuing qualification evaluations.	X	X	
2.e. through 2.h.	(Reserved)						

3. (Reserved)

TABLE B2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>							
Test		Tolerances	Flight conditions	Test details	FTD level		<<Information>>
Number	Title				5	6	Notes
4. (Reserved)							
5. (Reserved)							
6. FTD System Response Time							
6.a.	Latency						
	.....	300 ms (or less) after airplane response.	Take-off, cruise, and approach or landing.	One test is required in each axis (pitch, roll and yaw) for each of the three conditions (take-off, cruise, and approach or landing).	X	X	
	Transport Delay	.....	.....	.....			If Transport Delay is the chosen method to demonstrate relative responses, the sponsor and the NSPM will use the latency values to ensure proper simulator response when reviewing those existing tests where latency can be identified (e.g., short period, roll response, rudder response).
		300 ms (or less) after controller movement.	N/A	A separate test is required in each axis (pitch, roll, and yaw).	X	X	

Begin Information

3. For Additional Information on the Following Topics, Please Refer to Appendix A, Attachment 2, and the Indicated Paragraph Within That Attachment

- Control Dynamics, paragraph 3.
- Motion System, paragraph 5.
- Sound System, paragraph 6.
- Engineering Simulator Validation Data, paragraph 8.
- Approval Guidelines for Engineering Simulator Validation Data, paragraph 9.
- Validation Test Tolerances, paragraph 10.
- Validation Data Road Map, paragraph 11.
- Acceptance Guidelines for Alternative Engines Data, paragraph 12.
- Acceptance Guidelines for Alternative Avionics, paragraph 13.
- Transport Delay Testing, paragraph 14.
- Continuing Qualification Evaluation Validation Data Presentation, paragraph 15.

End Information

4. Alternative Objective Data for FTD Level 5

Begin QPS Requirements

a. This paragraph (including the following tables) is relevant only to FTD Level 5. It is provided because this level is required to simulate the performance and handling characteristics of a set of airplanes with similar characteristics, such as normal airspeed/altitude operating envelope and the same number and type of propulsion systems (engines).

b. Tables B2B through B2E reflect FTD performance standards that are acceptable to the FAA. A sponsor must demonstrate that a device performs within these parameters, as applicable. If a device does not meet the established performance parameters for some or for all of the applicable tests listed in Tables B2B through B2E, the sponsor may use NSP accepted flight test data for comparison purposes for those tests.

c. Sponsors using the data from Tables B2B through B2E must comply with the following:

(1) Submit a complete QTG, including results from all of the objective tests appropriate for the level of qualification sought as set out in Table B2A. The QTG must highlight those results that demonstrate that the performance of the FTD is within the allowable performance ranges indicated in Tables B2B through B2E, as appropriate.

(2) The QTG test results must include all relevant information concerning the conditions under which the test was conducted; e.g., gross weight, center of gravity, airspeed, power setting, altitude (climbing, descending, or level), temperature, configuration, and any other parameter that impacts the conduct of the test.

(3) The test results become the validation data against which the initial and all subsequent recurrent evaluations are compared. These subsequent evaluations will use the tolerances listed in Table B2A.

(4) Subjective testing of the device must be performed to determine that the device performs and handles like an airplane within the appropriate set of airplanes.

End QPS Requirements

Begin Information

d. The reader is encouraged to consult the Airplane Flight Simulator Evaluation

Handbook, Volumes I and II, published by the Royal Aeronautical Society, London, UK, and FAA Advisory Circulars (AC) 25–7, Flight Test Guide for Certification of Transport Category Airplanes, and (AC) 23–8A, Flight Test Guide for Certification of Part 23 Airplanes, as amended, for references and examples regarding flight testing requirements and techniques.

End Information

TABLE B2B.—ALTERNATIVE DATA SOURCE FOR FTD LEVEL 5 SMALL, SINGLE ENGINE (RECIPROCATING) AIRPLANE

<<<QPS requirement>>>
The performance parameters in this table must be used to program the FTD if flight test data is not used to program the FTD.

Applicable test		Authorized performance range
Number	Title and procedure	
1. Performance		
1.c.	Climb	
1.c.1.	Normal climb with nominal gross weight, at best rate-of-climb airspeed.	Climb rate = 500–1200 fpm (2.5–6 m/sec).
1.f.	Engines	
1.f.1.	Acceleration; idle to takeoff power	2–4 Seconds.
1.f.2.	Deceleration; takeoff power to idle	2–4 Seconds.
2. Handling Qualities		
2.c.	Longitudinal Tests	
2.c.1.	Power change force	
	(a) Trim for straight and level flight at 80% of normal cruise airspeed with necessary power. Reduce power to flight idle. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	5–15 lbs (2.2–6.6 daN) of force (Pull).
	OR	
	(b) Trim for straight and level flight at 80% of normal cruise airspeed with necessary power. Add power to maximum setting. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	5–15 lbs (2.2–6.6 daN) of force (Push).
2.c.2.	Flap/slat change force.	
	(a) Trim for straight and level flight with flaps fully retracted at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Extend the flaps to 50% of full flap travel. After stabilized, record stick force necessary to maintain original airspeed.	5–15 lbs (2.2–6.6 daN) of force (Pull).
	OR	
	(b) Trim for straight and level flight with flaps extended to 50% of full flap travel, at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Retract the flaps to zero. After stabilized, record stick force necessary to maintain original airspeed.	5–15 lbs (2.2–6.6 daN) of force (Push).
2.c.4.	Gear change force	
	(a) Trim for straight and level flight with landing gear retracted at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Extend the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2–12 lbs (0.88–5.3 daN) of force (Pull).
	OR	
	(b) Trim for straight and level flight with landing gear extended, at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Retract the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2–12 lbs (0.88–5.3 daN) of force (Push).

TABLE B2B.—ALTERNATIVE DATA SOURCE FOR FTD LEVEL 5 SMALL, SINGLE ENGINE (RECIPROCATING) AIRPLANE—Continued

<<<QPS requirement>>>
The performance parameters in this table must be used to program the FTD if flight test data is not used to program the FTD.

Applicable test		Authorized performance range
Number	Title and procedure	
2.c.5.	Longitudinal trim	Must be able to trim longitudinal stick force to ''zero'' in each of the following configurations: cruise; approach; and landing.
2.c.7.	Longitudinal static stability	Must exhibit positive static stability.
2.c.8.	Stall warning (actuation of stall warning device) with nominal gross weight; wings level; and a deceleration rate of not more than three (3) knots per second	
	(a) Landing configuration	40–60 knots; ±5° of bank.
	(b) Clean configuration	Landing configuration speed + 10–20%.
2.c.9.b.	Phugoid dynamics	Must have a phugoid with a period of 30–60 seconds. May not reach ½ or double amplitude in less than 2 cycles.
2.d.	Lateral Directional Tests	
2.d.2.	Roll response (rate) Roll rate must be measured through at least 30° of roll. Aileron control must be deflected ⅓ (33.3 percent) of maximum travel.	Must have a roll rate of 4°–25°/second.
2.d.4.b.	Spiral stability Cruise configuration and normal cruise airspeed. Establish a 20°–30° bank. When stabilized, neutralize the aileron control and release. Must be completed in both directions of turn.	Initial bank angle (±5°) after 20 seconds.
2.d.6.b.	Rudder response Use 25 percent of maximum rudder deflection. (Applicable to approach or landing configuration.).	2°–6°/second yaw rate.
2.d.7.	Dutch roll, yaw damper off. (Applicable to cruise and approach configurations.).	A period of 2–5 seconds; and ½–2 cycles.
2.d.8.	Steady state sideslip Use 50 percent rudder deflection. (Applicable to approach and landing configurations.)	2°–10° of bank; 4°–10° of sideslip; and 2°–10° of aileron.
6. FTD System Response Time		
6.a.	Latency Flight deck instrument systems response to an abrupt pilot controller input. One test is required in each axis (pitch, roll, yaw).	300 milliseconds or less.

TABLE B2C.—ALTERNATIVE DATA SOURCE FOR FTD LEVEL 5 SMALL, MULTI-ENGINE (RECIPROCATING) AIRPLANE

<<<QPS requirement>>>
The performance parameters in this table must be used to program the FTD if flight test data is not used to program the FTD.

Applicable test		Authorized performance range
Number	Title and procedure	
1. Performance		
1.c.	Climb	
1.c.1.	Normal climb with nominal gross weight, at best rate-of-climb airspeed.	Climb airspeed = 95–115 knots. Climb rate = 500–1500 fpm (2.5–7.5 m/sec).
1.f.	Engines	
1.f.1.	Acceleration; idle to takeoff power	2–5 seconds.
1.f.2.	Deceleration; takeoff power to idle	2–5 seconds.

TABLE B2C.—ALTERNATIVE DATA SOURCE FOR FTD LEVEL 5 SMALL, MULTI-ENGINE (RECIPROCATING) AIRPLANE—Continued

<<<QPS requirement>>>
The performance parameters in this table must be used to program the FTD if flight test data is not used to program the FTD.

Applicable test		Authorized performance range
Number	Title and procedure	
2. Handling Qualities		
2.c.	Longitudinal Tests	
2.c.1.	Power change force	
	(a) Trim for straight and level flight at 80% of normal cruise airspeed with necessary power. Reduce power to flight idle. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	10–25 lbs (2.2–6.6 daN) of force (Pull).
	OR	
	(b) Trim for straight and level flight at 80% of normal cruise airspeed with necessary power. Add power to maximum setting. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	5–15 lbs (2.2–6.6 daN) of force (Push).
2.c.2.	Flap/slat change force	
	(a) Trim for straight and level flight with flaps fully retracted at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Extend the flaps to 50% of full flap travel. After stabilized, record stick force necessary to maintain original airspeed.	5–15 lbs (2.2–6.6 daN) of force (Pull).
	OR	
	(b) Trim for straight and level flight with flaps extended to 50% of full flap travel, at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Retract the flaps to zero. After stabilized, record stick force necessary to maintain original airspeed.	5–15 lbs (2.2–6.6 daN) of force (Push).
2.c.4.	Gear change force	
	(a) Trim for straight and level flight with landing gear retracted at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Extend the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2–12 lbs (0.88–5.3 daN) of force (Pull).
	OR	
	(b) Trim for straight and level flight with landing gear extended, at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Retract the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2–12 lbs (0.88–5.3 daN) of force (Push).
2.c.4.	Longitudinal trim	Must be able to trim longitudinal stick force to ''zero'' in each of the following configurations: cruise; approach; and landing.
2.c.7.	Longitudinal static stability	Must exhibit positive static stability.
2.c.8.	Stall warning (actuation of stall warning device) with nominal gross weight; wings level; and a deceleration rate of not more than three (3) knots per second	
	(a) Landing configuration	60–90 knots; ±5° of bank.
	(b) Clean configuration	Landing configuration speed + 10–20%.
2.c.9.b.	Phugoid dynamics	Must have a phugoid with a period of 30–60 seconds. May not reach ½ or double amplitude in less than 2 cycles.
2.d.	Lateral Directional Tests	

TABLE B2C.—ALTERNATIVE DATA SOURCE FOR FTD LEVEL 5 SMALL, MULTI-ENGINE (RECIPROCATING) AIRPLANE—Continued

<<<QPS requirement>>>
The performance parameters in this table must be used to program the FTD if flight test data is not used to program the FTD.

Applicable test		Authorized performance range
Number	Title and procedure	
2.d.2.	Roll response ..... Roll rate must be measured through at least 30° of roll. Aileron control must be deflected ⅓ (33.3 percent) of maximum travel.	Must have a roll rate of 4°–25°/second.
2.d.4.b.	Spiral stability ..... Cruise configuration and normal cruise airspeed. Establish a 20°–30° bank. When stabilized, neutralize the aileron control and release. Must be completed in both directions of turn.	Initial bank angle (±5°) after 20 seconds.
2.d.6.b.	Rudder response ..... Use 25 percent of maximum rudder deflection. (Applicable to approach or landing configuration.).	3°–6°/second yaw rate.
2.d.7.	Dutch roll, yaw damper off. (Applicable to cruise and approach configurations.).	A period of 2–5 seconds; and ½–2 cycles.
2.d.8.	Steady state sideslip ..... Use 50 percent rudder deflection. (Applicable to approach and landing configurations.)	2°–10° of bank; 4–10 degrees of sideslip; and 2°–10° of aileron.
6. FTD System Response Time		
6.a.	Flight deck instrument systems response to an abrupt pilot controller input. One test is required in each axis (pitch, roll, yaw).	300 milliseconds or less.

TABLE B2D.—ALTERNATIVE DATA SOURCE FOR FTD LEVEL 5 SMALL, SINGLE ENGINE (TURBO-PROPELLER) AIRPLANE

<<<QPS requirement>>>
The performance parameters in this table must be used to program the FTD in flight test data is not used to program the FTD.

Applicable test		Authorized performance range
Number	Title and procedure	
1. Performance		
1.c.	Climb	
1.c.1.	Normal climb with nominal gross weight, at best rate-of-climb airspeed.	Climb airspeed = 95–115 knots. Climb rate = 800–1800 fpm (4–9 m/sec).
1.f.	Engines	
1.f.1.	Acceleration; idle to takeoff power	4–8 Seconds.
1.f.2.	Deceleration; takeoff power to idle	3–7 Seconds.
2. Handling Qualities		
2.c.	Longitudinal Tests	
2.c.1.	Power change force	
	(a) Trim for straight and level flight at 80% of normal cruise airspeed with necessary power. Reduce power to flight idle. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	8 lbs (3.5 daN) of Push force—8 lbs (3.5 daN) of Pull force.
	OR	
	(b) Trim for straight and level flight at 80% of normal cruise airspeed with necessary power. Add power to maximum setting. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	12–22 lbs (5.3–9.7 daN) of force (Push).
2.c.2.	Flap/slat change force	

TABLE B2D.—ALTERNATIVE DATA SOURCE FOR FTD LEVEL 5 SMALL, SINGLE ENGINE (TURBO-PROPELLER) AIRPLANE—Continued

<<<QPS requirement>>>
The performance parameters in this table must be used to program the FTD in flight test data is not used to program the FTD.

Applicable test		Authorized performance range
Number	Title and procedure	
	(a) Trim for straight and level flight with flaps fully retracted at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Extend the flaps to 50% of full flap travel. After stabilized, record stick force necessary to maintain original airspeed.	5–15 lbs (2.2–6.6 daN) of force (Pull).
	OR	
	(b) Trim for straight and level flight with flaps extended to 50% of full flap travel, at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Retract the flaps to zero. After stabilized, record stick force necessary to maintain original airspeed.	5–15 lbs (2.2–6.6 daN) of force (Push).
2.c.4.	Gear change force	
	(a) Trim for straight and level flight with landing gear retracted at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Extend the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2–12 lbs (0.88–5.3 daN) of force (Pull).
	OR	
	(b) Trim for straight and level flight with landing gear extended, at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Retract the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2–12 lbs (0.88–5.3 daN) of force (Push).
2.b.5.	Longitudinal trim	Must be able to trim longitudinal stick force to ''zero'' in each of the following configurations: cruise; approach; and landing.
2.c.7.	Longitudinal static stability	Must exhibit positive static stability.
2.c.8.	Stall warning (actuation of stall warning device) with nominal gross weight; wings level; and a deceleration rate of not more than three (3) knots per second.	
	(a) Landing configuration	60–90 knots; ±5° of bank.
	(b) Clean configuration	Landing configuration speed + 10–20%.
2.c.8.b.	Phugoid dynamics	Must have a phugoid with a period of 30–60 seconds. May not reach ½ or double amplitude in less than 2 cycles.
2.d.	Lateral Directional Tests	
2.d.2.	Roll response ..... Roll rate must be measured through at least 30° of roll. Aileron control must be deflected ⅓ (33.3 percent) of maximum travel.	Must have a roll rate of 4°–25°/second.
2.d.4.b.	Spiral stability ..... Cruise configuration and normal cruise airspeed. Establish a 20°–30° bank. When stabilized, neutralize the aileron control and release. Must be completed in both directions of turn.	Initial bank angle (±5°) after 20 seconds.
2.d.6.b.	Rudder response ..... Use 25 percent of maximum rudder deflection. (Applicable to approach or landing configuration.)	3°–6°/second yaw rate.
2.d.7.	Dutch roll, yaw damper off. (Applicable to cruise and approach configurations.).	A period of 2–5 seconds; and ½–3 cycles.
2.d.8.	Steady state sideslip ..... Use 50 percent rudder deflection. (Applicable to approach and landing configurations.).	2°–10° of bank; 4°–10° of sideslip; and 2°–10° of aileron.

TABLE B2D.—ALTERNATIVE DATA SOURCE FOR FTD LEVEL 5 SMALL, SINGLE ENGINE (TURBO-PROPELLER) AIRPLANE—Continued

<<<QPS requirement>>>
The performance parameters in this table must be used to program the FTD in flight test data is not used to program the FTD.

Applicable test		Authorized performance range
Number	Title and procedure	
6. FTD System Response Time		
6.a.	Flight deck instrument systems response to an abrupt pilot controller input. One test is required in each axis (pitch, roll, yaw).	300 milliseconds or less.

TABLE B2E.—ALTERNATIVE DATA SOURCE FOR FTD LEVEL 5 MULTI-ENGINE (TURBO-PROPELLER) AIRPLANE

<<<QPS requirement>>>
The performance parameters in this table must be used to program the FTD in flight test data is not used to program the FTD.

Applicable test		Authorized performance range
Number	Title and procedure	
1. Performance		
1.c.	Climb.	
1.b.1.	Normal climb with nominal gross weight, at best rate-of-climb airspeed.	Climb airspeed = 120–140 knots. Climb rate = 1000–3000 fpm (5–15 m/sec)
1.f.	Engines	
1.f.1.	Acceleration; idle to takeoff power	2–6 Seconds.
1.f.2.	Deceleration; takeoff power to idle	1–5 Seconds.
2. Handling Qualities		
2.c.	Longitudinal Tests	
2.c.1.	Power change force	
	(a) Trim for straight and level flight at 80% of normal cruise airspeed with necessary power. Reduce power to flight idle. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	8 lbs (3.5 daN) of Push force to 8 lbs (3.5 daN) of Pull force.
	OR	
	(b) Trim for straight and level flight at 80% of normal cruise airspeed with necessary power. Add power to maximum setting. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	12–22 lbs (5.3–9.7 daN) of force (Push).
2.c.2.	Flap/slat change force	
	(a) Trim for straight and level flight with flaps fully retracted at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Extend the flaps to 50% of full flap travel. After stabilized, record stick force necessary to maintain original airspeed.	5–15 lbs (2.2–6.6 daN) of force (Pull).
	OR	
	(b) Trim for straight and level flight with flaps extended to 50% of full flap travel, at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Retract the flaps to zero. After stabilized, record stick force necessary to maintain original airspeed.	5–15 lbs (2.2–6.6 daN) of force (Push).
2.c.4.	Gear change force	

TABLE B2E.—ALTERNATIVE DATA SOURCE FOR FTD LEVEL 5 MULTI-ENGINE (TURBO-PROPELLER) AIRPLANE—Continued

<<<QPS requirement>>>
The performance parameters in this table must be used to program the FTD in flight test data is not used to program the FTD.

Applicable test		Authorized performance range
Number	Title and procedure	
	(a) Trim for straight and level flight with landing gear retracted at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Extend the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2–12 lbs (0.88–5.3 daN) of force (Pull).
	OR	
	b) Trim for straight and level flight with landing gear extended, at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Retract the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2–12 lbs (0.88–5.3 daN) of force (Push).
2.b.5.	Longitudinal trim	Must be able to trim longitudinal stick force to "zero" in each of the following configurations: cruise; approach; and landing.
2.c.7.	Longitudinal static stability	Must exhibit positive static stability.
2.c.8.	Stall warning (actuation of stall warning device) with nominal gross weight; wings level; and a deceleration rate of not more than three (3) knots per second. (a) Landing configuration ..... (b) Clean configuration	 80–100 knots; ±5° of bank. Landing configuration speed + 10–20%.
2.c.8.b.	Phugoid dynamics	Must have a phugoid with a period of 30–60 seconds. May not reach ½ or double amplitude in less than 2 cycles.
2.d.	Lateral Directional Tests	
2.d.2.	Roll response ..... Roll rate must be measured through at least 30° of roll. Aileron control must be deflected ⅓ (33.3 percent) of maximum travel.	Must have a roll rate of 4–25 degrees/second.
2.d.4.b.	Spiral stability ..... Cruise configuration and normal cruise airspeed. Establish a 20°–30° bank. When stabilized, neutralize the aileron control and release. Must be completed in both directions of turn.	Initial bank angle (±5°) after 20 seconds.
2.d.6.b.	Rudder response ..... Use 25 percent of maximum rudder deflection. (Applicable to approach or landing configuration.)	3°–6°/second yaw rate.
2.d.7.	Dutch roll, yaw damper off. (Applicable to cruise and approach configurations.).	A period of 2–5 seconds; and ½–2 cycles.
2.d.8.	Steady state sideslip ..... Use 50 percent rudder deflection. (Applicable to approach and landing configurations.)	2°–10° of bank; 4°–10° of sideslip; and 2°–10° of aileron.
6. FTD System Response Time		
6.a.	Flight deck instrument systems response to an abrupt pilot controller input. One test is required in each axis (pitch, roll, yaw).	300 milliseconds or less.

End QPS Requirements

Begin QPS Requirements

5. Alternative Data Sources, Procedures, and Instrumentation: Level 6 FTD Only

a. Sponsors are not required to use the alternative data sources, procedures, and instrumentation. However, any sponsor choosing to use alternative sources must comply with the requirements in Table B2F.

End QPS Requirements

Begin Information

b. It has become standard practice for experienced FTD manufacturers to use such techniques as a means of establishing data bases for new FTD configurations while awaiting the availability of actual flight test data; and then comparing this new data with the newly available flight test data. The results of such comparisons have, as reported by some recognized and experienced simulation experts, become increasingly consistent and indicate that these techniques, applied with appropriate experience, are becoming dependably accurate for the development of aerodynamic models for use in Level 6 FTDs.

c. In reviewing this history, the NSPM has concluded that, with proper care, those who are experienced in the development of aerodynamic models for FTD application can successfully use these modeling techniques to acceptably alter the method by which flight test data may be acquired and, when applied to Level 6 FTDs, does not compromise the quality of that simulation.

d. The information in the table that follows (Table of Alternative Data Sources, Procedures, and Information: Level 6 FTD Only) is presented to describe an acceptable alternative to data sources for Level 6 FTD modeling and validation, and an acceptable alternative to the procedures and instrumentation found in the flight test methods traditionally accepted for gathering modeling and validation data.

(1) Alternative data sources that may be used for part or all of a data requirement are the Airplane Maintenance Manual, the Airplane Flight Manual (AFM), Airplane Design Data, the Type Inspection Report (TIR), Certification Data or acceptable supplemental flight test data.

(2) The NSPM recommends that use of the alternative instrumentation noted in Table B2F be coordinated with the NSPM prior to employment in a flight test or data gathering effort.

e. The NSPM position regarding the use of these alternative data sources, procedures, and instrumentation is based on three primary preconditions and presumptions regarding the objective data and FTD aerodynamic program modeling.

(1) Data gathered through the alternative means does not require angle of attack (AOA) measurements or control surface position measurements for any flight test. AOA can be sufficiently derived if the flight test program insures the collection of acceptable level, unaccelerated, trimmed flight data. Angle of attack may be validated by conducting the three basic ''fly-by'' trim tests. The FTD time history tests should begin in level, unaccelerated, and trimmed flight, and the results should be compared with the flight test pitch angle.

(2) A simulation controls system model should be rigorously defined and fully mature. It should also include accurate gearing and cable stretch characteristics (where applicable) that are determined from actual aircraft measurements. Such a model does not require control surface position measurements in the flight test objective data for Level 6 FTD applications.

f. Table B2F is not applicable to Computer Controlled Aircraft FTDs.

g. Utilization of these alternate data sources, procedures, and instrumentation does not relieve the sponsor from compliance with the balance of the information contained in this document relative to Level 6 FTDs.

h. The term ''inertial measurement system'' allows the use of a functional global positioning system (GPS).

End Information

TABLE B2F.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION LEVEL 6 FTD

<<<QPS requirements>>>
The standards in this table are required if the data gathering methods described in paragraph 9 of Appendix B are not used.

Objective test reference number and title	Alternative data sources, procedures, and instrumentation	Notes and reminders
1.b.1. ..... Performance Takeoff Ground acceleration time.	Data may be acquired through a synchronized video recording of a stop watch and the calibrated airplane airspeed indicator. Hand-record the flight conditions and airplane configuration.	This test is required only if RTO is sought.
1.b.7. ..... Performance Takeoff Rejected takeoff.	Data may be acquired through a synchronized video recording of a stop watch and the calibrated airplane airspeed indicator. Hand-record the flight conditions and airplane configuration.	This test is required only if RTO is sought.
1.c.1. ..... Performance Climb Normal climb all engines operating.	Data may be acquired with a synchronized video of calibrated airplane instruments and engine power throughout the climb range.	
1.f.1. ..... Performance Engines Acceleration.	Data may be acquired with a synchronized video recording of engine instruments and throttle position.	
1.f.2. ..... Performance Engines Deceleration.	Data may be acquired with a synchronized video recording of engine instruments and throttle position.	
2.a.1.a. ..... Handling qualities Static control tests Pitch controller position vs. force and surface position calibration.	Surface position data may be acquired from flight data recorder (FDR) sensor or, if no FDR sensor, at selected, significant column positions (encompassing significant column position data points), acceptable to the NSPM, using a control surface protractor on the ground (for airplanes with reversible control systems, this function should be accomplished with winds less than 5 kt). Force data may be acquired by using a hand held force gauge at the same column position data points.	

TABLE B2F.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION LEVEL 6 FTD—Continued

<<<QPS requirements>>>
The standards in this table are required if the data gathering methods described in paragraph 9 of Appendix B are not used.

Objective test reference number and title	Alternative data sources, procedures, and instrumentation	Notes and reminders
2.a.2.a. ..... Handling qualities Static control tests Wheel position vs. force and surface position calibration.	Surface position data may be acquired from flight data recorder (FDR) sensor or, if no FDR sensor, at selected, significant column positions (encompassing significant column position data points), acceptable to the NSPM, using a control surface protractor on the ground (for airplanes with reversible control systems, this function should be accomplished with winds less than 5 kt). Force data may be acquired by using a hand held force gauge at the same column position data points.	
2.a.3.a. ..... Handling qualities Static control tests Rudder pedal position vs. force and surface position calibration.	Surface position data may be acquired from flight data recorder (FDR) sensor or, if no FDR sensor, at selected, significant column positions (encompassing significant column position data points), acceptable to the NSPM, using a control surface protractor on the ground (for airplanes with reversible control systems, this function should be accomplished with winds less than 5 kt). Force data may be acquired by using a hand held force gauge at the same column position data points.	
2.a.4. ..... Handling qualities Static control tests Nosewheel steering force.	Breakout data may be acquired with a hand held force gauge. The remainder of the force to the stops may be calculated if the force gauge and a protractor are used to measure force after breakout for at least 25% of the total displacement capability.	
2.a.5. ..... Handling qualities Static control tests Rudder pedal steering calibration.	Data may be acquired through the use of force pads on the rudder pedals and a pedal position measurement device, together with design data for nose wheel position.	
2.a.6. ..... Handling qualities Static control tests Pitch trim indicator vs. surface position calibration.	Data may be acquired through calculations.	
2.a.8. ..... Handling qualities Static control tests Alignment of power lever angle vs. selected engine parameter (e.g., EPR, N_1, Torque, Manifold pressure).	Data may be acquired through the use of a temporary throttle quadrant scale to document throttle position. Use a synchronized video to record steady state instrument readings or hand-record steady state engine performance readings.	
2.a.9. ..... Handling qualities Static control tests Brake pedal position vs. force.	Use of design or predicted data is acceptable. Data may be acquired by measuring deflection at "zero" and at "maximum."	
2.c.1. ..... Handling qualities Longitudinal control tests Power change force.	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated airplane instruments, throttle position, and the force/position measurements of flight deck controls.	Power change dynamics test is acceptable using the same data acquisition methodology.
2.c.2. ..... Handling qualities Longitudinal control tests Flap/slat change force.	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated airplane instruments, flap/slat position, and the force/position measurements of flight deck controls.	Flap/slat change dynamics test is acceptable using the same data acquisition methodology.
2.c.4. ..... Handling qualities Longitudinal control tests Gear change force.	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated airplane instruments, gear position, and the force/position measurements of flight deck controls.	Gear change dynamics test is acceptable using the same data acquisition methodology.

TABLE B2F.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION LEVEL 6 FTD—Continued

<<<QPS requirements>>>
The standards in this table are required if the data gathering methods described in paragraph 9 of Appendix B are not used.

Objective test reference number and title	Alternative data sources, procedures, and instrumentation	Notes and reminders
2.c.5. ..... Handling qualities Longitudinal control tests Longitudinal trim.	Data may be acquired through use of an inertial measurement system and a synchronized video of flight deck controls position (previously calibrated to show related surface position) and engine instrument readings.	
2.c.6. ..... Handling qualities Longitudinal control tests Longitudinal maneuvering stability (stick force/g).	Data may be acquired through the use of an inertial measurement system and a synchronized video of the calibrated airplane instruments; a temporary, high resolution bank angle scale affixed to the attitude indicator; and a wheel and column force measurement indication.	
2.c.7. ..... Handling qualities. Longitudinal control tests Longitudinal static stability.	Data may be acquired through the use of a synchronized video of the airplane flight instruments and a hand held force gauge.	
2.c.8. ..... Handling qualities Longitudinal control tests Stall Warning (activation of stall warning device).	Data may be acquired through a synchronized video recording of a stop watch and the calibrated airplane airspeed indicator. Hand-record the flight conditions and airplane configuration.	Airspeeds may be cross checked with those in the TIR and AFM.
2.c.9.a. ..... Handling qualities. Longitudinal control tests Phugoid dynamics.	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated airplane instruments and the force/position measurements of flight deck controls.	
2.c.10. ..... Handling qualities Longitudinal control tests Short period dynamics.	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated airplane instruments and the force/position measurements of flight deck controls.	
2.c.11. ..... Handling qualities Longitudinal control tests Gear and flap/slat operating times.	May use design data, production flight test schedule, or maintenance specification, together with an SOC.	
2.d.2. ..... Handling qualities Lateral directional tests Roll response (rate).	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated airplane instruments and the force/position measurements of flight deck lateral controls.	
2.d.3. ..... Handling qualities Lateral directional tests (a) Roll overshoot OR (b) Roll response to flight deck roll controller step input.	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated airplane instruments and the force/position measurements of flight deck lateral controls.	
2.d.4. ..... Handling qualities Lateral directional tests Spiral stability.	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated airplane instruments; the force/position measurements of flight deck controls; and a stop watch.	
2.d.6.a. ..... Handling qualities Lateral directional tests Rudder response.	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated airplane instruments; the force/position measurements of rudder pedals.	
2.d.7. ..... Handling qualities Lateral directional tests Dutch roll, (yaw damper OFF).	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated airplane instruments and the force/position measurements of flight deck controls.	

TABLE B2F.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION LEVEL 6 FTD—Continued

<<<QPS requirements>>>
The standards in this table are required if the data gathering methods described in paragraph 9 of Appendix B are not used.

Objective test reference number and title	Alternative data sources, procedures, and instrumentation	Notes and reminders
2.d.8. ..... Handling qualities Lateral directional tests Steady state sideslip.	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated airplane instruments and the force/position measurements of flight deck controls.	

Attachment 3 to Appendix B to Part 60—Flight Training Device (FTD) Subjective Evaluation

Begin Information

1. Discussion

a. The subjective tests provide a basis for evaluating the capability of the FTD to perform over a typical utilization period. The items listed in the Table of Functions and Subjective Tests are used to determine whether the FTD competently simulates each required maneuver, procedure, or task; and verifying correct operation of the FTD controls, instruments, and systems. The tasks do not limit or exceed the authorizations for use of a given level of FTD as described on the Statement of Qualification or as may be approved by the TPAA. All items in the following paragraphs are subject to examination.

b. All simulated airplane systems functions will be assessed for normal and, where appropriate, alternate operations. Simulated airplane systems are listed separately under ''Any Flight Phase'' to ensure appropriate attention to systems checks. Operational navigation systems (including inertial navigation systems, global positioning systems, or other long-range systems) and the associated electronic display systems will be evaluated if installed. The NSP pilot will include in his report to the TPAA, the effect of the system operation and any system limitation.

c. At the request of the TPAA, the NSP Pilot may assess the FTD for a special aspect of a sponsor's training program during the functions and subjective portion of an evaluation. Such an assessment may include a portion of a specific operation (e.g., a Line Oriented Flight Training (LOFT) scenario) or special emphasis items in the sponsor's training program. Unless directly related to a requirement for the qualification level, the results of such an evaluation would not affect the qualification of the FTD.

End Information

TABLE B3A.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 6 FTD

<<<QPS requirements>>>

Number	Operations tasks
Tasks in this table are subject to evaluation if appropriate for the airplane system or systems simulated as indicated in the SOQ Configuration List as defined in Appendix B, Attachment 2 of this part.	
1. Preflight	
	Accomplish a functions check of all installed switches, indicators, systems, and equipment at all crewmembers' and instructors' stations, and determine that the flight deck (or flight deck area) design and functions replicate the appropriate airplane.
2. Surface Operations (pre-takeoff)	
2.a.	Engine start:
2.a.1.	Normal start.
2.a.2.	Alternative procedures start.
2.a.3.	Abnormal procedures start/shut down.
2.b.	Pushback/Powerback (powerback requires visual system).
3. Takeoff (requires appropriate visual system as set out in Table B1A, item 6; Appendix B, Attachment 1.)	
3.a.	Instrument takeoff:
3.a.1	Engine checks (e.g., engine parameter relationships, propeller/mixture controls).
3.a.2.	Acceleration characteristics.
3.a.3.	Nosewheel/rudder steering.
3.a.4.	Landing gear, wing flap, leading edge device operation.
3.b.	Rejected takeoff:
3.b.1.	Deceleration characteristics.
3.b.2.	Brakes/engine reverser/ground spoiler operation.

TABLE B3A.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 6 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
3.b.3.	Nosewheel/rudder steering.
4. In-Flight Operations	
4.a.	Normal climb.
4.b.	Cruise:
4.b.1.	Demonstration of performance characteristics (speed vs. power).
4.b.2.	Normal turns.
4.b.3.	Demonstration of high altitude handling.
4.b.4.	Demonstration of high airspeed handling/overspeed warning.
4.b.5.	Demonstration of Mach effects on control and trim.
4.b.6.	Steep turns.
4.b.7.	In-Flight engine shutdown (procedures only).
4.b.8.	In-Flight engine restart (procedures only).
4.b.9.	Specific flight characteristics.
4.b.10. ..	Response to loss of flight control power.
4.b.11. ..	Response to other flight control system failure modes.
4.b.12. ..	Operations during icing conditions.
4.b.13. ..	Effects of airframe/engine icing.
4.c.	Other flight phase:
4.c.1.	Approach to stalls in the following configurations:
4.c.1.a.	Cruise.
4.c.1.b.	Takeoff or approach.
4.c.1.c.	Landing.
4.c.2.	High angle of attack maneuvers in the following configurations:
4.c.2.a.	Cruise.
4.c.2.b.	Takeoff or approach.
4.c.2.c.	Landing.
4.c.3	Slow flight
4.c.4	Holding.
5. Approaches	
5.a. 5.a.1.	With use of autopilot and autothrottle, as applicable.
5.a.2.	Without use of autopilot and autothrottle, as applicable.
5.a.3.	With 10 knot tail wind.
5.a.4.	With 10 knot crosswind.
5.b.	Precision Instrument Approaches:
5.b.1.	With use of autopilot, autothrottle, and autoland, as applicable.

TABLE B3A.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 6 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
5.b.2.	Without use of autopilot, autothrottle, and autoland, as applicable.
5.b.3.	With 10 knot tail wind.
5.b.4.	With 10 knot crosswind.
6. Missed Approach	
6.a.	Manually controlled.
6.b.	Automatically controlled (if applicable).
7. Any Flight Phase, as appropriate	
7.a.	Normal system operation (installed systems).
7.b.	Abnormal/Emergency system operation (installed systems).
7.c.	Flap operation.
7.d.	Landing gear operation.
7.e.	Engine Shutdown and Parking.
7.e.1.	Systems operation.
7.e.2.	Parking brake operation.
8. Instructor Operating Station (IOS), as appropriate. Functions in this section are subject to evaluation only if appropriate for the airplane and/or installed on the specific FTD involved	
8.a.	Power Switch(es).
8.b.	Airplane conditions.
8.b.1.	Gross weight, center of gravity, and fuel loading and allocation.
8.b.2.	Airplane systems status.
8.b.3.	Ground crew functions (e.g., external power, push back).
8.c.	Airports.
8.c.1.	Selection.
8.c.2.	Runway selection.
8.c.3.	Preset positions (e.g., ramp, over FAF).
8.d.	Environmental controls.
8.d.1.	Temperature.
8.d.2.	Climate conditions (e.g., ice, rain).
8.d.3.	Wind speed and direction.
8.e.	Airplane system malfunctions.
8.e.1.	Insertion/deletion.
8.e.2.	Problem clear.
8.f.	Locks, Freezes, and Repositioning.
8.f.1.	Problem (all) freeze/release.
8.f.2.	Position (geographic) freeze/release.
8.f.3.	Repositioning (locations, freezes, and releases).

TABLE B3A.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 6 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
8.f.4.	Ground speed control.
8.f.5.	Remote IOS, if installed.
9. Sound Controls. On/off/adjustment	
10. Control Loading System (as applicable) On/off/emergency stop	
11. Observer Stations	
11.a.	Position.
11.b.	Adjustments.

End QPS Requirements

TABLE B3B.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 5 FTD

<<<QPS requirements>>>	
Number	Operations tasks
Tasks in this table are subject to evaluation if appropriate for the airplane system or systems simulated as indicated in the SOQ Configuration List as defined in Appendix B, Attachment 2 of this part.	
1. Preflight	
	Accomplish a functions check of all installed switches, indicators, systems, and equipment at all crewmembers' and instructors' stations, and determine that the flight deck (or flight deck area) design and functions replicate the appropriate airplane.
2. Surface Operations (pre-takeoff)	
2.a.	Engine start (if installed):
2.a.1.	Normal start.
2.a.2.	Alternative procedures start.
2.a.3.	Abnormal/Emergency procedures start/shut down.
3. In-Flight Operations	
3.a.	Normal climb.
3.b.	Cruise:
3.b.1.	Performance characteristics (speed vs. power).
3.b.2.	Normal turns.
3.c.	Normal descent.
4. Approaches	
4.a.	Coupled instrument approach maneuvers (as applicable for the systems installed).
5. Any Flight Phase	
5.a.	Normal system operation (Installed systems).
5.b.	Abnormal/Emergency system operation (installed systems).
5.c.	Flap operation.
5.d.	Landing gear operation.
5.e.	Engine Shutdown and Parking (if installed).
5.e.1.	Systems operation.

TABLE B3B.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 5 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
5.e.2.	Parking brake operation.
6. Instructor Operating Station (IOS)	
6.a.	Power Switch(es).
6.b.	Preset positions—ground, air.
6.c.	Airplane system malfunctions (Installed systems).
6.c.1.	Insertion/deletion.
6.c.2.	Problem clear.

TABLE B3C.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 4 FTD

<<<QPS requirements>>>	
Number	Operations tasks
Tasks in this table are subject to evaluation if appropriate for the airplane system or systems simulated as indicated in the SOQ Configuration List as defined in Appendix B, Attachment 2 of this part.	
1.	Level 4 FTDs are required to have at least one operational system. The NSPM will accomplish a functions check of all installed systems, switches, indicators, and equipment at all crewmembers' and instructors' stations, and determine that the flight deck (or flight deck area) design and functions replicate the appropriate airplane.

Attachment 4 to Appendix B to Part 60—Sample Documents

Begin Information

Table of Contents

Title of Sample

Figure B4A Sample Letter, Request for Initial, Upgrade, or Reinstatement Evaluation
Figure B4B Attachment: FSTD Information Form
Figure B4C Sample Qualification Test Guide Cover Page
Figure B4D Sample Statement of Qualification—Certificate
Figure B4E Sample Statement of Qualification—Configuration List
Figure B4F Sample Statement of Qualification—List of Qualified Tasks
Figure B4G Sample Continuing Qualification Evaluation Requirements Page
Figure B4H Sample MQTG Index of Effective FSTD Directives

BILLING CODE 4910–13–P

Attachment 4 to Appendix B to Part 60—
Figure B4A – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation.
INFORMATION

Date _____

Edward D. Cook, Ph.D.
Manager, National Simulator Program
Federal Aviation Administration
100 Hartsfield Centre Parkway
Suite 400
Atlanta, GA 30354

Dear Dr. Cook:

RE: Request for Initial/Upgrade Evaluation Date

This is to advise you of our intent to request an (initial or upgrade) evaluation of our (FSTD Manufacturer), (Aircraft Type/Level) Flight Simulation Training Device (FSTD), (FAA ID Number, if previously qualified), located in (City, State) at the (Facility) on (Proposed Evaluation Date). (The proposed evaluation date shall not be more than 180 days following the date of this letter.) The FSTD will be sponsored by (Name of Training Center/Air Carrier), FAA Designator (4 Letter Code). The FSTD will be sponsored as follows; (Select One)

☐ The FSTD will be used within the sponsor's FAA approved training program and placed on the sponsor's Training/Operations Specifications.

☐ The FSTD will be used for dry lease only.

We agree to provide the formal request for the evaluation to your staff as follows: (check one)

☐ For QTG tests run at the factory, not later, than 45 days prior to the proposed evaluation date with the additional "l/3 on-site" tests provided not later than 14 days prior to the proposed evaluation date.

☐ For QTG tests run on-site, not later than 30 days prior to the proposed evaluation date.

We understand that the formal request will contain the following documents:

4. Sponsor's Letter of Request (*Company Compliance Letter*).
5. Principal Operations Inspector (POI) or Training Center Program Manager's (TCPM) endorsement.
6. Complete QTG.

If we are unable to meet the above requirements, we understand this may result in a significant delay, perhaps 45 days or more, in rescheduling and completing the evaluation.

(The sponsor should add additional comments as necessary).

Please contact (Name Telephone and Fax Number of Sponsor's Contact) to confirm the date for this initial evaluation. We understand a member of your National Simulator Program staff will respond to this request within 14 days.

A copy of this letter of intent has been provided to (Name), the Principal Operations Inspector

Attachment 4 to Appendix B to Part 60—
Figure B4A – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation.
INFORMATION

(POI) and/or Training Center Program Manager (TCPM).

Sincerely,

Attachment: FSTD Information and Characteristics Form
cc: POI/TCPM

Attachment 4 to Appendix B to Part 60—
Figure B4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form
INFORMATION

Date: _____			
Section 1. FSTD Information and Characteristics			
Sponsor Name:	_____	**FSTD Location:**	
Address:	_____ _____	**Physical Address:**	_____ _____
City:	_____	**City:**	_____
State:	_____	**State:**	_____
Country:	_____	**Country:**	_____
ZIP:	_____	**ZIP:**	_____
Manager	_____		
Sponsor ID No: *(Four Letter FAA Designator)*	_____	**Nearest Airport:** *(Airport Designator)*	_____

Type of Evaluation Requested:			☐ **Initial** ☐ **Upgrade** ☐ **Recurrent** ☐ **Special** ☐ **Reinstatement**		
Qualification Basis: _____	☐ **A**	☐ **B**	☐ **Interim C**	☐ **C**	☐ **D**
	☐ **6**	☐ **7**	☐ **Provisional Status**		
Initial Qualification: (If Applicable)	**Date:** _____ **Level** _____		**Manufacturer's Identification/Serial No:**	_____	
Upgrade Qualification: (If Applicable)	**Date:** _____ **Level** _____ MM/DD/YYYY		☐ **eQTG**		

Other Technical Information:			
FAA FSTD ID No: (If Applicable)	_____	**FSTD Manufacturer:**	_____
Convertible FSTD:	☐**Yes:**	**Date of Manufacture:**	_____ MM/DD/YYYY
Related FAA ID No. (If Applicable)	_____ _____ _____	**Sponsor FSTD ID No:** _____	
Aircraft model/series: _____		**Source of aerodynamic model:** _____	
Engine model(s) and data revision: _____		**Source of aerodynamic doefficient data:** _____	
FMS identification and revision level: _____		**Aerodynamic data revision number:** _____	
Visual system manufacturer/model: _____		**Visual system display:** _____	
Flight control data revision: _____		**FSTD computer(s) identification:** _____	
Motion system manufacturer/type: _____			
National Aviation Authority (NAA): (If Applicable)	_____		_____
NAA FSTD ID No:	_____	**Last NAA Evaluation Date:**	_____

Attachment 4 to Appendix B to Part 60—
Figure B4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form
INFORMATION

NAA Qualification Level:	_____		
NAA Qualification Basis:	_____		
Visual System Manufacturer and Type:	_____	**Motion System Manufacturer and Type:**	_____
Aircraft Make/Model/Series:	_____	**FSTD Seats Available:**	_____

Aircraft Equipment	**ENGINE TYPE(S):** _____	**Flight Instrumentation:** ☐ **EFIS** ☐ **HUD** ☐ **HGS** ☐ **EFVS** ☐ **TCAS** ☐ **GPWS** ☐ **Plain View** ☐ **GPS** ☐ **FMS Type:** _____ ☐ **WX Radar** ☐ **Other:** _____	Engine Instrumentation: ☐ **EICAS** ☐ **FADEC** ☐ **Other:** _____

Airport Models:	3.6.1 _____ *Airport Designator*	3.6.2_____ *Airport Designator*	3.6.3 _____ *Airport Designator*
Circle to Land:	3. 7.1 _____ *Airport Designator*	3. 7.2_____ *Approach*	3. 7.3 _____ *Landing Runway*
Visual Ground Segment	3.8.1 _____ *Airport Designator*	3.8 .2_____ *Approach*	3. 8.3 _____ *Landing Runway*

Section 2. Supplementary Information

FAA Training Program Approval Authority:		☐ **POI** ☐ **TCPM** ☐ **Other:** _____	
Name:	_____	**Office:**	_____
Tel:	_____	**Fax:**	_____
Email:	_____		
FSTD Scheduling Person:			
Name:	_____		
Address 1:	_____	**Address 2**	_____
City:	_____	**State:**	_____
ZIP:	_____	**Email:**	_____
Tel:	_____	**Fax:**	_____
FSTD Technical Contact:			
Name:	_____		
Address 1:	_____	**Address 2**	_____
City:	_____	**State:**	_____
ZIP:	_____	**Email:**	_____
Tel:	_____	**Fax:**	_____

Attachment 4 to Appendix B to Part 60—
Figure B4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form
INFORMATION

Section 3. Training, Testing and Checking Considerations		
Area/Function/Maneuver	Requested	Remarks
Private Pilot - Training / Checks: (142)	☐	____
Commercial Pilot - Training /Checks:(142)	☐	____
Multi-Engine Rating - Training / Checks (142)	☐	____
Instrument Rating -Training / Checks (142)	☐	____
Type Rating - Training / Checks (135/121/142)	☐	____
Proficiency Checks (135/121/142)	☐	____
CAT I: (RVR 2400/1800 ft. DH200 ft)	☐	____
CAT II: (RVR 1200 ft. DH 100 ft)	☐	____
CAT III * (lowest minimum) _____ RVR _____ ft. * *State CAT III (≤ 700 ft.), CAT IIIb (≤ 150 ft.), or CAT IIIc (0 ft.)*	☐	____
Circling Approach	☐	____
Windshear Training:	☐	____
Windshear Training IAW 121.409(d) (121 Turbojets Only)	☐	____
Generic Unusual Attitudes and Recoveries within the Normal Flight Envelope	☐	____
Specific Unusual Attitudes Recoveries	☐	____
Auto-coupled Approach/Auto Go Around	☐	____
Auto-land / Roll Out Guidance	☐	____
TCAS/ACAS I / II	☐	____
WX-Radar	☐	____
HUD	☐	____
HGS	☐	
EFVS	☐	
Future Air Navigation Systems	☐	____
GPWS / EGPWS	☐	____
ETOPS Capability	☐	____
GPS	☐	____
SMGCS	☐	____
Helicopter Slope Landings	☐	____
Helicopter External Load Operations	☐	____
Helicopter Pinnacle Approach to Landings	☐	____
Helicopter Night Vision Maneuvers	☐	____
Helicopter Category A Takeoffs	☐	____

Attachment 4 to Appendix B to Part 60—
Figure B4C – Sample Qualification Test Guide Cover Page
INFORMATION

SPONSOR NAME

SPONSOR ADDRESS

FAA QUALIFICATION TEST GUIDE

(SPECIFIC AIRPLANE MODEL)
for example
Stratos BA797-320A

(Type of FTD)

(FTD Identification Including Manufacturer, Serial Number, Visual System Used)

(FTD Level)

(Qualification Performance Standard Used)

(FTD Location)

FAA Initial Evaluation

Date: _____

_____ Date: _____
(Sponsor)

_____ Date: _____
Manager, National
Simulator Program, FAA

Attachment 4 to Appendix B to Part 60—
Figure B4D – Sample Statement of Qualification - Certificate
INFORMATION

Federal Aviation Administration
National Simulator Program

Certificate of Qualification

This is to certify that representatives of the National Simulator Program Completed an evaluation of the

Go-Fast Airlines
Farnsworth Z-100 Flight Training Device
FAA Identification Number 998

And pursuant to 14 CFR Part 60 found it to meet its original qualification basis, AC 120-45A (MM/DD/YY)

The Master Qualification Test Guide and the attached Configuration List and Restrictions List Provide the Qualification Basis for this device to operate at

Level 6

Until March 31, 2010

Unless sooner rescinded or extended by the National Simulator Program Manager

February 15, *2009* — *B. Williamson*

(date) — (for the NSPM)

Attachment 4 to Appendix B to Part 60—
Figure B4E – Sample Statement of Qualification; Configuration List
INFORMATION

CERTIFICATE OF QUALIFICATION
CONFIGURATION LIST

Date: _____			
Section 1. FSTD Information and Characteristics			
Sponsor Name:	_____	**FSTD Location:**	
Address:	_____ _____	**Physical Address:**	_____ _____
City:	_____	**City:**	_____
State:	_____	**State:**	_____
Country:	_____	**Country:**	_____
ZIP:	_____	**ZIP:**	_____
Manager	_____		
Sponsor ID No: *(Four Letter FAA Designator)*	_____	**Nearest Airport:** *(Airport Designator)*	_____

Type of Evaluation Requested:			☐ **Initial** ☐ **Upgrade** ☐ **Recurrent** ☐ **Special** ☐ **Reinstatement**		
Qualification Basis: _____	☐ **A**	☐ **B**	☐ **Interim C**	☐ **C**	☐ **D**
	☐ **6**	☐ **7**	☐ **Provisional Status**		

Initial Qualification: (If Applicable)	**Date:** _____ **Level** _____	**Manufacturer's Identification/Serial No:**	_____
Upgrade Qualification: (If Applicable)	**Date:** _____ **Level** _____ MM/DD/YYYY	☐ **eQTG**	

Other Technical Information:			
FAA FSTD ID No: (If Applicable)	_____	**FSTD Manufacturer:**	_____
Convertible FSTD:	☐ **Yes:**	**Date of Manufacture:**	_____ MM/DD/YYYY
Related FAA ID No. (If Applicable)	_____ _____ _____	**Sponsor FSTD ID No:** _____	
Aircraft model/series: _____		**Source of aerodynamic model:** _____	
Engine model(s) and data revision: _____		**Source of aerodynamic doefficient data:** _____	
FMS identification and revision level: _____		**Aerodynamic data revision number:** _____	
Visual system manufacturer/model: _____		**Visual system display:** _____	
Flight control data revision: _____		**FSTD computer(s) identification:** _____	
Motion system manufacturer/type: _____			

National Aviation Authority (NAA): (If Applicable)	_____		_____
NAA FSTD ID No:	_____	**Last NAA Evaluation Date:**	_____

Attachment 4 to Appendix B to Part 60—
Figure B4E – Sample Statement of Qualification; Configuration List
INFORMATION

NAA Qualification Level:	____		
NAA Qualification Basis:	____		
Visual System Manufacturer and Type:	____	**Motion System Manufacturer and Type:**	____
Aircraft Make/Model/Series:	____	**FSTD Seats Available:**	____

Aircraft Equipment	**ENGINE TYPE(S):** ____	**Flight Instrumentation:** ☐ **EFIS** ☐ **HUD** ☐ **HGS** ☐ **EFVS** ☐ **TCAS** ☐ **GPWS** ☐ **Plain View** ☐ **GPS** ☐ **FMS Type:** ____ ☐ **WX Radar** ☐ **Other:** ____	Engine Instrumentation: ☐ **EICAS** ☐ **FADEC** ☐ **Other:** ____

Airport Models:	3.6.1 ____ *Airport Designator*	3.6.2 ____ *Airport Designator*	3.6.3 ____ *Airport Designator*
Circle to Land:	3. 7.1 ____ *Airport Designator*	3. 7.2 ____ *Approach*	3. 7.3 ____ *Landing Runway*
Visual Ground Segment	3.8.1 ____ *Airport Designator*	3.8 .2 ____ *Approach*	3. 8.3 ____ *Landing Runway*

Section 2. Supplementary Information

FAA Training Program Approval Authority:		☐ **POI** ☐ **TCPM** ☐ **Other:** ____	
Name:	____	**Office:**	____
Tel:	____	**Fax:**	____
Email:	____		
FSTD Scheduling Person:			
Name:	____		
Address 1:	____	**Address 2**	____
City:	____	**State:**	____
ZIP:	____	**Email:**	____
Tel:	____	**Fax:**	____
FSTD Technical Contact:			
Name:	____		
Address 1:	____	**Address 2**	____
City:	____	**State:**	____
ZIP:	____	**Email:**	____
Tel:	____	**Fax:**	____

Section 3. Training, Testing and Checking Considerations

Area/Function/Maneuver	Requested	Remarks
Private Pilot - Training / Checks: (142)	☐	____
Commercial Pilot - Training /Checks:(142)	☐	____

Attachment 4 to Appendix B to Part 60—
Figure B4E – Sample Statement of Qualification; Configuration List
INFORMATION

Multi-Engine Rating - Training / Checks (142)	☐	____
Instrument Rating -Training / Checks (142)	☐	____
Type Rating - Training / Checks (135/121/142)	☐	____
Proficiency Checks (135/121/142)	☐	____
CAT I: (RVR 2400/1800 ft. DH200 ft)	☐	____
CAT II: (RVR 1200 ft. DH 100 ft)	☐	____
CAT III * (lowest minimum) _____ RVR _____ ft. * *State CAT III (≤ 700 ft.), CAT IIIb (≤ 150 ft.), or CAT IIIc (0 ft.)*	☐	____
Circling Approach	☐	____
Windshear Training:	☐	____
Windshear Training IAW 121.409(d) (121 Turbojets Only)	☐	____
Generic Unusual Attitudes and Recoveries within the Normal Flight Envelope	☐	____
Specific Unusual Attitudes Recoveries	☐	____
Auto-coupled Approach/Auto Go Around	☐	____
Auto-land / Roll Out Guidance	☐	____
TCAS/ACAS I / II	☐	____
WX-Radar	☐	____
HUD	☐	____
HGS	☐	
EFVS	☐	
Future Air Navigation Systems	☐	____
GPWS / EGPWS	☐	____
ETOPS Capability	☐	____
GPS	☐	____
SMGCS	☐	____
Helicopter Slope Landings	☐	____
Helicopter External Load Operations	☐	____
Helicopter Pinnacle Approach to Landings	☐	____
Helicopter Night Vision Maneuvers	☐	____
Helicopter Category A Takeoffs	☐	____

Attachment 4 to Appendix B to Part 60—
Figure B4F – Sample Statement of Qualification;– List of Qualified Tasks
INFORMATION

CERTIFICATE OF QUALIFICATION
List of Qualified Tasks

Go Fast Airline Training -- Farnsworth Z-100 -- Level D -- FAA ID# 999

The FSTD is qualified to perform all of the tasks listed in Appendix 1, Table B1B for its assigned level of qualification *except* for the following listed tasks.

Qualified for all tasks in Table B1B, for which the sponsor has requested qualification, except for the following: 4.e. Circling Approach 6. (a) Emergency Descent (maximum rate) 6. (b) Inflight Fire and Smoke Removal 6. (c) Rapid Decompression 6. (d) Emergency Evacuation
Additional tasks for which this FSTD is qualified (i.e., in addition to the list in Table B1B): NONE

Attachment 4 to Appendix B to Part 60—
Figure B4G – Sample Continuing Qualification Evaluation Requirements Page
INFORMATION

Recurrent Evaluation Requirements ***Completed at conclusion of Initial Evaluation***	
Recurrent Evaluations to be conducted each _(fill in)__ months Allotting _____ hours of FTD time. Signed: _____ NSPM / Evaluation Team Leader	Recurrent evaluations are due as follows: _(month)__ and __(month)_ and __(month)_ (enter or strike out, as appropriate) _____ Date

Revision: Based on (enter reasoning):	
Recurrent Evaluations are to be conducted each _(fill in)__ months. Allotting _____ hours. Signed: _____ NSPM Evaluation Team Leader	Recurrent evaluations are due as follows: _(month)__ and __(month)_ and __(month)_ (enter or strike out, as appropriate) _____ Date

Revision: Based on (enter reasoning):	
Recurrent Evaluations are to be conducted each _(fill in)__ months. Allotting _____ hours. Signed: _____ NSPM Evaluation Team Leader	Recurrent evaluations are due as follows: _(month)__ and __(month)_ and __(month)_ (enter or strike out, as appropriate) _____ Date

(Repeat as Necessary)

Attachment 4 to Appendix B to Part 60—
Figure B4H – Sample MQTG Index of Effective FSTD Directives

Index of Effective FSTD Directives Filed in this Section

Notification Number	Effective Date of FSTD Directive	Date of Notification	Details
(FSTD Directive 1)	*(effective date of FSTD Directive)*	*(Date of publication in Federal Register)*	*(apply to FSTDs with approved visual scene)*

Continue as Necessary....

BILLING CODE 4910–13–C

Attachment 5 to Appendix B to Part 60—FSTD Directives Applicable to Airplane Flight Training Devices

Appendix C to Part 60—Qualification Performance Standards for Helicopter Full Flight Simulators

Begin Information

This appendix establishes the standards for Helicopter Full Flight Simulator (FFS) evaluation and qualification. The Flight Standards Service, National Simulator Program Manager (NSPM), is responsible for the development, application, and implementation of the standards contained within this appendix. The procedures and criteria specified in this appendix will be used by the NSPM, or a person assigned by the NSPM, when conducting helicopter FFS evaluations.

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1. Introduction
2. Applicability (§ 60.1) and (§ 60.2)
3. Definitions (§ 60.3)
4. Qualification Performance Standards (§ 60.4)
5. Quality Management System (§ 60.5)
6. Sponsor Qualification Requirements (§ 60.7)
7. Additional Responsibilities of the Sponsor (§ 60.9)
8. FSTD Use (§ 60.11)
9. FSTD Objective Data Requirements (§ 60.13)
10. Special Equipment and Personnel Requirements for Qualification of the FSTD (§ 60.14)
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19. Automatic Loss of Qualification and Procedures for Restoration of Qualification (§ 60.27)
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21. Record Keeping and Reporting (§ 60.31)
22. Applications, Logbooks, Reports, and Records: Fraud, Falsification, or Incorrect Statements (§ 60.33)
23. [Reserved]
24. [Reserved]
25. FSTD Qualification on the Basis of a Bilateral Aviation Safety Agreement (BASA) (§ 60.37)
Attachment 1 to Appendix C to Part 60—General Simulator Requirements
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Attachment 3 to Appendix C to Part 60—Simulator Subjective Evaluation
Attachment 4 to Appendix C to Part 60—Sample Documents
Attachment 5 to Appendix C to Part 60—FSTD Directives Applicable to Helicopter Full Flight Simulators

End Information

1. Introduction

Begin Information

a. This appendix contains background information as well as regulatory and informative material as described later in this section. To assist the reader in determining what areas are required and what areas are permissive, the text in this appendix is divided into two sections: ''QPS Requirements'' and ''Information.'' The QPS Requirements sections contain details regarding compliance with the part 60 rule language. These details are regulatory, but are found only in this appendix. The Information sections contain material that is advisory in nature, and designed to give the user general information about the regulation.

b. Questions regarding the contents of this publication should be sent to the U.S. Department of Transportation, Federal Aviation Administration, Flight Standards Service, National Simulator Program Staff, AFS–205, 100 Hartsfield Centre Parkway, Suite 400, Atlanta, Georgia 30354. Telephone contact numbers for the NSP are: phone, 404–832–4700; fax, 404–761–8906. The general e-mail address for the NSP office is: *9-aso-avr-sim-team@faa.gov*. The NSP Internet Web Site address is: *http://www.faa.gov/safety/programs_initiatives/aircraft_aviation/nsp/*. On this Web Site you will find an NSP personnel list with telephone and e-mail contact information for each NSP staff member, a list of qualified flight simulation devices, advisory circulars, a description of the qualification process, NSP policy, and an NSP ''In-Works'' section. Also linked from this site are additional information sources, handbook bulletins, frequently asked questions, a listing and text of the Federal Aviation Regulations, Flight Standards Inspector's handbooks, and other FAA links.

c. The NSPM encourages the use of electronic media for all communication, including any record, report, request, test, or statement required by this appendix. The electronic media used must have adequate security provisions and be acceptable to the NSPM. The NSPM recommends inquiries on system compatibility, and minimum system requirements are also included on the NSP Web site.

d. Related Reading References.

(1) 14 CFR part 60.
(2) 14 CFR part 61.
(3) 14 CFR part 63.
(4) 14 CFR part 119
(5) 14 CFR part 121.
(6) 14 CFR part 125
(7) 14 CFR part 135.
(8) 14 CFR part 141.
(9) 14 CFR part 142.
(10) AC 120–35B, Line Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation.
(11) AC 120–57A, Surface Movement Guidance and Control System (SMGS).
(12) AC 150/5300–13, Airport Design.
(13) AC 150/5340–1G, Standards for Airport Markings.
(14) AC 150/5340–4C, Installation Details for Runway Centerline Touchdown Zone Lighting Systems.
(15) AC 150/5340–19, Taxiway Centerline Lighting System.
(16) AC 150/5340–24, Runway and Taxiway Edge Lighting System.
(17) AC 150/5345–28D, Precision Approach Path Indicator (PAPI) Systems.
(18) AC 150/5390–2B, Heliport Design.
(19) International Air Transport Association document, ''Flight Simulator Design and Performance Data Requirements,'' as amended.
(20) AC 29–2B, Flight Test Guide for Certification of Transport Category Rotorcraft.
(21) AC 27–1A, Flight Test Guide for Certification of Normal Category Rotorcraft.
(22) International Civil Aviation Organization (ICAO) Manual of Criteria for the Qualification of Flight Simulators, as amended.
(23) Airplane Flight Simulator Evaluation Handbook, Volume I, as amended and Volume II, as amended, The Royal Aeronautical Society, London, UK.
(24) FAA Publication FAA–S–8081 series (Practical Test Standards for Airline Transport Pilot Certificate, Type Ratings, Commercial Pilot, and Instrument Ratings).
(25) The FAA Aeronautical Information Manual (AIM). An electronic version of the AIM is on the Internet at *http://www.faa.gov/atpubs*.

End Information

---

2. Applicability (§§ 60.1 and 60.2)

Begin Information

No additional regulatory or informational material applies to § 60.1, Applicability, or to § 60.2, Applicability of sponsor rules to persons who are not sponsors and who are engaged in certain unauthorized activities.

End Information

---

3. Definitions (§ 60.3)

Begin Information

See Appendix F of this part for a list of definitions and abbreviations from part 1 and part 60, including the appropriate appendices of part 60.

End Information

---

4. Qualification Performance Standards (§ 60.4)

Begin Information

No additional regulatory or informational material applies to § 60.4, Qualification Performance Standards.

End Information

---

5. Quality Management System (§ 60.5)

Begin Information

See Appendix E of this part for additional regulatory and informational material regarding Quality Management Systems.

End Information

---

6. Sponsor Qualification Requirements (§ 60.7)

Begin Information

a. The intent of the language in § 60.7(b) is to have a specific FFS, identified by the sponsor, used at least once in an FAA-approved flight training program for the helicopter simulated during the 12-month period described. The identification of the specific FFS may change from one 12-month period to the next 12-month period as long as that sponsor sponsors and uses at least one FFS at least once during the prescribed period. There is no minimum number of hours or minimum FFS periods required.

b. The following examples describe acceptable operational practices:

(1) Example One.

(a) A sponsor is sponsoring a single, specific FFS for its own use, in its own facility or elsewhere—this single FFS forms the basis for the sponsorship. The sponsor uses that FFS at least once in each 12-month period in that sponsor's FAA-approved flight training program for the helicopter simulated. This 12-month period is established according to the following schedule:

(i) If the FFS was qualified prior to May 30, 2008, the 12-month period begins on the date of the first continuing qualification evaluation conducted in accordance with § 60.19 after (60 days after date of publication of the final rule in the **Federal Register**) and continues for each subsequent 12-month period;

(ii) A device qualified on or after May 30, 2008, will be required to undergo an initial or upgrade evaluation in accordance with § 60.15. Once the initial or upgrade evaluation is complete, the first continuing qualification evaluation will be conducted within 6 months. The 12-month continuing qualification evaluation cycle begins on that date and continues for each subsequent 12-month period.

(b) There is no minimum number of hours of FFS use required.

(c) The identification of the specific FFS may change from one 12-month period to the next 12-month period as long as that sponsor sponsors and uses at least one FFS at least once during the prescribed period.

(2) Example Two.

(a) A sponsor sponsors an additional number of FFSs, in its facility or elsewhere. Each additionally sponsored FFS must be—

(i) Used by the sponsor in the sponsor's FAA-approved flight training program for the helicopter simulated (as described in § 60.7(d)(1)); or

(ii) Used by another FAA certificate holder in that other certificate holder's FAA-approved flight training program for the helicopter simulated (as described in § 60.7(d)(1)). This 12-month period is established in the same manner as in example one; or

(iii) Provided a statement each year from a qualified pilot, (after having flown the helicopter, not the subject FFS or another

FFS, during the preceding 12-month period) stating that the subject FFS's performance and handling qualities represent the helicopter (as described in § 60.7(d)(2)). This statement is provided at least once in each 12-month period established in the same manner as in example one.

(b) There is no minimum number of hours of FFS use required.

(3) Example Three.

(a) A sponsor in New York (in this example, a Part 142 certificate holder) establishes ''satellite'' training centers in Chicago and Moscow.

(b) The satellite function means that the Chicago and Moscow centers must operate under the New York center's certificate (in accordance with all of the New York center's practices, procedures, and policies; e.g., instructor and/or technician training/ checking requirements, record keeping, QMS program).

(c) All of the FFSs in the Chicago and Moscow centers could be dry-leased (i.e., the certificate holder does not have and use FAA-approved flight training programs for the FFSs in the Chicago and Moscow centers) because—

(i) Each FFS in the Chicago center and each FFS in the Moscow center is used at least once each 12-month period by another FAA certificate holder in that other certificate holder's FAA-approved flight training program for the helicopter (as described in § 60.7(d)(1)); or

(ii) A statement is obtained from a qualified pilot (having flown the helicopter, not the subject FFS or another FFS during the preceding 12-month period) stating that the performance and handling qualities of each FFS in the Chicago and Moscow centers represent the helicopter (as described in § 60.7(d)(2)).

End Information

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7. Additional Responsibilities of the Sponsor (§ 60.9)

Begin Information

The phrase ''as soon as practicable'' in § 60.9(a) means without unnecessarily disrupting or delaying beyond a reasonable time the training, evaluation, or experience being conducted in the FSTD.

End Information

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8. FSTD Use (§ 60.11)

Begin Information

No additional regulatory or informational material applies to § 60.11, FSTD Use.

End Information

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9. FSTD Objective Data Requirements (§ 60.13)

Begin QPS Requirements

a. Flight test data used to validate FFS performance and handling qualities must have been gathered in accordance with a flight test program containing the following:

(1) A flight test plan consisting of:

(a) The maneuvers and procedures required for aircraft certification and simulation programming and validation

(b) For each maneuver or procedure—

(i) The procedures and control input the flight test pilot and/or engineer used.

(ii) The atmospheric and environmental conditions.

(iii) The initial flight conditions.

(iv) The helicopter configuration, including weight and center of gravity.

(v) The data to be gathered.

(vi) All other information necessary to recreate the flight test conditions in the FFS.

(2) Appropriately qualified flight test personnel.

(3) An understanding of the accuracy of the data to be gathered using appropriate alternative data sources, procedures, and instrumentation that is traceable to a recognized standard as described in Attachment 2, Table C2D.

(4) Appropriate and sufficient data acquisition equipment or system(s), including appropriate data reduction and analysis methods and techniques, as would be acceptable to the FAA's Aircraft Certification Service.

b. The data, regardless of source, must be presented:

(1) in a format that supports the FFS validation process;

(2) in a manner that is clearly readable and annotated correctly and completely;

(3) with resolution sufficient to determine compliance with the tolerances set forth in Attachment 2, Table C2A of this appendix.

(4) with any necessary instructions or other details provided, such as yaw damper or throttle position; and

(5) without alteration, adjustments, or bias; however the data may be rescaled, digitized, or otherwise manipulated to fit the desired presentation.

c. After completion of any additional flight test, a flight test report must be submitted in support of the validation data. The report must contain sufficient data and rationale to support qualification of the FFS at the level requested.

d. As required by § 60.13(f), the sponsor must notify the NSPM when it becomes aware that an addition to, an amendment to, or a revision of data that may relate to FFS performance or handling characteristics is available. The data referred to in this paragraph are those data that are used to validate the performance, handling qualities, or other characteristics of the aircraft, including data related to any relevant changes occurring after the type certificate was issued. The sponsor must—

(1) Within 10 calendar days, notify the NSPM of the existence of this data; and

(2) Within 45 calendar days, notify the NSPM of—

(a) The schedule to incorporate this data into the FFS; or

(b) The reason for not incorporating this data into the FFS.

e. In those cases where the objective test results authorize a ''snapshot test'' or a ''series of snapshot test results'' in lieu of a time-history result, the sponsor or other data provider must ensure that a steady state condition exists at the instant of time captured by the ''snapshot.'' The steady state condition must exist from 4 seconds prior to, through 1 second following, the instant of time captured by the snapshot.

End QPS Requirements

Begin Information

f. The FFS sponsor is encouraged to maintain a liaison with the manufacturer of the aircraft being simulated (or with the holder of the aircraft type certificate for the aircraft being simulated if the manufacturer is no longer in business), and, if appropriate, with the person who supplied the aircraft data package for the FFS in order to facilitate the notification required by § 60.13(f).

g. It is the intent of the NSPM that for new aircraft entering service, at a point well in advance of preparation of the Qualification Test Guide (QTG), the sponsor should submit to the NSPM for approval, a descriptive document (a validation data roadmap) containing the plan for acquiring the validation data, including data sources. This document should clearly identify sources of data for all required tests, a description of the validity of these data for a specific engine type and thrust rating configuration, and the revision levels of all avionics affecting the performance or flying qualities of the aircraft. Additionally, this document should provide other information, such as the rationale or explanation for cases where data or data parameters are missing, instances where engineering simulation data are used or where flight test methods require further explanations. It should also provide a brief narrative describing the cause and effect of any deviation from data requirements. The aircraft manufacturer may provide this document.

h. There is no requirement for any flight test data supplier to submit a flight test plan or program prior to gathering flight test data. However, the NSPM notes that inexperienced data gatherers often provide data that is irrelevant, improperly marked, or lacking adequate justification for selection. Other problems include inadequate information regarding initial conditions or test maneuvers. The NSPM has been forced to refuse these data submissions as validation data for an FFS evaluation. It is for this reason that the NSPM recommends that any data supplier not previously experienced in this area review the data necessary for programming and for validating the performance of the FFS, and discuss the flight test plan anticipated for acquiring such data with the NSPM well in advance of commencing the flight tests.

i. The NSPM will consider, on a case-by-case basis, whether to approve supplemental validation data derived from flight data recording systems such as a Quick Access Recorder or Flight Data Recorder.

End Information

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10. Special Equipment and Personnel Requirements for Qualification of the FSTD (§ 60.14)

Begin Information

a. In the event that the NSPM determines that special equipment or specifically qualified persons will be required to conduct an evaluation, the NSPM will make every attempt to notify the sponsor at least one (1) week, but in no case less than 72 hours, in advance of the evaluation. Examples of special equipment include spot photometers, flight control measurement devices, and sound analyzers. Examples of specially qualified personnel include individuals specifically qualified to install or use any special equipment when its use is required.

b. Examples of a special evaluation include an evaluation conducted after an FFS is moved, at the request of the TPAA, or as a result of comments received from users of the FFS that raise questions about the continued qualification or use of the FFS.

End Information

11. Initial (and Upgrade) Qualification Requirements (§ 60.15)

Begin QPS Requirements

a. In order to be qualified at a particular qualification level, the FFS must:

(1) Meet the general requirements listed in Attachment 1;

(2) Meet the objective testing requirements listed in Attachment 2; and

(3) Satisfactorily accomplish the subjective tests listed in Attachment 3.

b. The request described in § 60.15(a) must include all of the following:

(1) A statement that the FFS meets all of the applicable provisions of this part and all applicable provisions of the QPS.

(2) A confirmation that the sponsor will forward to the NSPM the statement described in § 60.15(b) in such time as to be received no later than 5 business days prior to the scheduled evaluation and may be forwarded to the NSPM via traditional or electronic means.

(3) A qualification test guide (QTG), acceptable to the NSPM, that includes all of the following:

(a) Objective data obtained from aircraft testing or another approved source.

(b) Correlating objective test results obtained from the performance of the FFS as prescribed in the appropriate QPS.

(c) The result of FFS subjective tests prescribed in the appropriate QPS.

(d) A description of the equipment necessary to perform the evaluation for initial qualification and the continuing qualification evaluations.

c. The QTG described in paragraph (a)(3) of this section, must provide the documented proof of compliance with the simulator objective tests in Attachment 2, Table C2A of this appendix.

d. The QTG is prepared and submitted by the sponsor, or the sponsor's agent on behalf of the sponsor, to the NSPM for review and approval, and must include, for each objective test:

(1) Parameters, tolerances, and flight conditions.

(2) Pertinent and complete instructions for the conduct of automatic and manual tests.

(3) A means of comparing the FFS test results to the objective data.

(4) Any other information as necessary, to assist in the evaluation of the test results.

(5) Other information appropriate to the qualification level of the FFS.

e. The QTG described in paragraphs (a)(3) and (b) of this section, must include the following:

(1) A QTG cover page with sponsor and FAA approval signature blocks (see Attachment 4, Figure C4C, for a sample QTG cover page).

(2) A continuing qualification evaluation schedule requirements page. This page will be used by the NSPM to establish and record the frequency with which continuing qualification evaluations must be conducted and any subsequent changes that may be determined by the NSPM in accordance with § 60.19. See Attachment 4, Figure C4G, for a sample Continuing Qualification Evaluation Requirements page.

(3) An FFS information page that provides the information listed in this paragraph (see Attachment 4, Figure C4B, for a sample FFS information page). For convertible FFSs, the sponsor must submit a separate page for each configuration of the FFS.

(a) The sponsor's FFS identification number or code.

(b) The helicopter model and series being simulated.

(c) The aerodynamic data revision number or reference.

(d) The source of the basic aerodynamic model and the aerodynamic coefficient data used to modify the basic model.

(e) The engine model(s) and its data revision number or reference.

(f) The flight control data revision number or reference.

(g) The flight management system identification and revision level.

(h) The FFS model and manufacturer.

(i) The date of FFS manufacture.

(j) The FFS computer identification.

(k) The visual system model and manufacturer, including display type.

(l) The motion system type and manufacturer, including degrees of freedom.

(4) A Table of Contents.

(5) A log of revisions and a list of effective pages.

(6) List of all relevant data references.

(7) A glossary of terms and symbols used (including sign conventions and units).

(8) Statements of compliance and capability (SOCs) with certain requirements. SOCs must provide references to the sources of information that show the capability of the FFS to comply with the requirement, a rationale explaining how the referenced material is used, mathematical equations and parameter values used, and the conclusions reached; *i.e.*, that the FFS complies with the requirement.

(9) Recording procedures or equipment required to accomplish the objective tests.

(10) The following information for each objective test designated in Attachment 2, Table C2A, as applicable to the qualification level sought:

(a) Name of the test.

(b) Objective of the test.

(c) Initial conditions.

(d) Manual test procedures.

(e) Automatic test procedures (if applicable).

(f) Method for evaluating FFS objective test results.

(g) List of all relevant parameters driven or constrained during the automatically conducted test(s).

(h) List of all relevant parameters driven or constrained during the manually conducted test(s).

(i) Tolerances for relevant parameters.

(j) Source of Validation Data (document and page number).

(k) Copy of the Validation Data (if located in a separate binder, a cross reference for the identification and page number for pertinent data location must be provided).

(l) Simulator Objective Test Results as obtained by the sponsor. Each test result must reflect the date completed and must be clearly labeled as a product of the device being tested.

f. A convertible FFS is addressed as a separate FFS for each model and series helicopter to which it will be converted and for the FAA qualification level sought. If a sponsor seeks qualification for two or more models of a helicopter type using a convertible FFS, the sponsor must submit a QTG for each helicopter model, or a QTG for the first helicopter model and a supplement to that QTG for each additional helicopter model. The NSPM will conduct evaluations for each helicopter model.

g. Form and manner of presentation of objective test results in the QTG:

(1) The sponsor's FFS test results must be recorded in a manner acceptable to the NSPM, that allows easy comparison of the FFS test results to the validation data (e.g., use of a multi-channel recorder, line printer, cross plotting, overlays, transparencies).

(2) FFS results must be labeled using terminology common to helicopter parameters as opposed to computer software identifications.

(3) Validation data documents included in a QTG may be photographically reduced only if such reduction will not alter the graphic scaling or cause difficulties in scale interpretation or resolution.

(4) Scaling on graphical presentations must provide the resolution necessary to evaluate the parameters shown in Attachment 2, Table C2A of this appendix.

(5) Tests involving time histories, data sheets (or transparencies thereof) and FFS test results must be clearly marked with appropriate reference points to ensure an accurate comparison between the FFS and the helicopter with respect to time. Time histories recorded via a line printer are to be clearly identified for cross plotting on the helicopter data. Over-plots must not obscure the reference data.

h. The sponsor may elect to complete the QTG objective and subjective tests at the manufacturer's facility or at the sponsor's training facility. If the tests are conducted at the manufacturer's facility, the sponsor must

repeat at least one-third of the tests at the sponsor's training facility in order to substantiate FFS performance. The QTG must be clearly annotated to indicate when and where each test was accomplished. Tests conducted at the manufacturer's facility and at the sponsor's training facility must be conducted after the FFS is assembled with systems and sub-systems functional and operating in an interactive manner. The test results must be submitted to the NSPM.

i. The sponsor must maintain a copy of the MQTG at the FFS location.

j. All FFSs for which the initial qualification is conducted after May 30, 2014, must have an electronic MQTG (eMQTG) including all objective data obtained from helicopter testing, or another approved source (reformatted or digitized), together with correlating objective test results obtained from the performance of the FFS (reformatted or digitized) as prescribed in this appendix. The eMQTG must also contain the general FFS performance or demonstration results (reformatted or digitized) prescribed in this appendix, and a description of the equipment necessary to perform the initial qualification evaluation and the continuing qualification evaluations. The eMQTG must include the original validation data used to validate FFS performance and handling qualities in either the original digitized format from the data supplier or an electronic scan of the original time-history plots that were provided by the data supplier. A copy of the eMQTG must be provided to the NSPM.

k. All other FFSs not covered in subparagraph ''j'' must have an electronic copy of the MQTG by May 30, 2014. A copy of the eMQTG must be provided to the NSPM. This may be provided by an electronic scan presented in a Portable Document File (PDF), or similar format acceptable to the NSPM.

l. During the initial (or upgrade) qualification evaluation conducted by the NSPM, the sponsor must also provide a person who is a user of the device (e.g., a qualified pilot or instructor pilot with flight time experience in that aircraft) and knowledgeable about the operation of the aircraft and the operation of the FFS.

End QPS Requirements

Begin Information

m. Only those FFSs that are sponsored by a certificate holder as defined in Appendix F will be evaluated by the NSPM. However, other FFS evaluations may be conducted on a case-by-case basis as the Administrator deems appropriate, but only in accordance with applicable agreements.

n. The NSPM will conduct an evaluation for each configuration, and each FFS must be evaluated as completely as possible. To ensure a thorough and uniform evaluation, each FFS is subjected to the general simulator requirements in Attachment 1, the objective tests listed in Attachment 2, and the subjective tests listed in Attachment 3 of this appendix. The evaluations described herein will include, but not necessarily be limited to the following:

(1) Helicopter responses, including longitudinal and lateral-directional control responses (see Attachment 2 of this appendix).

(2) Performance in authorized portions of the simulated helicopter's operating envelope, to include tasks evaluated by the NSPM in the areas of surface operations, takeoff, climb, cruise, descent, approach, and landing as well as abnormal and emergency operations (see Attachment 2 of this appendix).

(3) Control checks (see Attachment 1 and Attachment 2 of this appendix).

(4) Flight deck configuration (see Attachment 1 of this appendix).

(5) Pilot, flight engineer, and instructor station functions checks (see Attachment 1 and Attachment 3 of this appendix).

(6) Helicopter systems and sub-systems (as appropriate) as compared to the helicopter simulated (see Attachment 1 and Attachment 3 of this appendix).

(7) FFS systems and sub-systems, including force cueing (motion), visual, and aural (sound) systems, as appropriate (see Attachment 1 and Attachment 2 of this appendix).

(8) Certain additional requirements, depending upon the qualification level sought, including equipment or circumstances that may become hazardous to the occupants. The sponsor may be subject to Occupational Safety and Health Administration requirements.

o. The NSPM administers the objective and subjective tests, which includes an examination of functions. The tests include a qualitative assessment of the FFS by an NSP pilot. The NSP evaluation team leader may assign other qualified personnel to assist in accomplishing the functions examination and/or the objective and subjective tests performed during an evaluation when required.

(1) Objective tests provide a basis for measuring and evaluating FFS performance and determining compliance with the requirements of this part.

(2) Subjective tests provide a basis for:

(a) Evaluating the capability of the FFS to perform over a typical utilization period;

(b) Determining that the FFS satisfactorily simulates each required task;

(c) Verifying correct operation of the FFS controls, instruments, and systems; and

(d) Demonstrating compliance with the requirements of this part.

p. The tolerances for the test parameters listed in Attachment 2 of this appendix reflect the range of tolerances acceptable to the NSPM for FFS validation and are not to be confused with design tolerances specified for FFS manufacture. In making decisions regarding tests and test results, the NSPM relies on the use of operational and engineering judgment in the application of data (including consideration of the way in which the flight test was flown and way the data was gathered and applied), data presentations, and the applicable tolerances for each test.

q. In addition to the scheduled continuing qualification evaluation, each FFS is subject to evaluations conducted by the NSPM at any time without prior notification to the sponsor. Such evaluations would be accomplished in a normal manner (i.e., requiring exclusive use of the FFS for the conduct of objective and subjective tests and an examination of functions) if the FFS is not being used for flight crewmember training, testing, or checking. However, if the FFS were being used, the evaluation would be conducted in a non-exclusive manner. This non-exclusive evaluation will be conducted by the FFS evaluator accompanying the check airman, instructor, Aircrew Program Designee (APD), or FAA inspector aboard the FFS along with the student(s) and observing the operation of the FFS during the training, testing, or checking activities.

r. Problems with objective test results are handled as follows:

(1) If a problem with an objective test result is detected by the NSP evaluation team during an evaluation, the test may be repeated or the QTG may be amended.

(2) If it is determined that the results of an objective test do not support the level requested but do support a lower level, the NSPM may qualify the FFS at that lower level. For example, if a Level D evaluation is requested and the FFS fails to meet sound test tolerances, it could be qualified at Level C.

s. After an FFS is successfully evaluated, the NSPM issues a certificate of qualification (COQ) to the sponsor. The NSPM recommends the FFS to the TPAA, who will approve the FFS for use in a flight training program. The COQ will be issued at the satisfactory conclusion of the initial or continuing qualification evaluation and will list the tasks for which the FSTD is qualified, referencing the tasks described in Table C1B in attachment 1. However, it is the sponsor's responsibility to obtain TPAA approval prior to using the FSTD in an FAA-approved flight training program.

t. Under normal circumstances, the NSPM establishes a date for the initial or upgrade evaluation within ten (10) working days after determining that a complete QTG is acceptable. Unusual circumstances may warrant establishing an evaluation date before this determination is made. A sponsor may schedule an evaluation date as early as 6 months in advance. However, there may be a delay of 45 days or more in rescheduling and completing the evaluation if the sponsor is unable to meet the scheduled date. See Attachment 4, Figure C4A, Sample Request for Initial, Upgrade, or Reinstatement Evaluation.

u. The numbering system used for objective test results in the QTG should closely follow the numbering system set out in Attachment 2, FFS Objective Tests, Table C2A.

v. Contact the NSPM or visit the NSPM Web site for additional information regarding the preferred qualifications of pilots used to meet the requirements of § 60.15(d).

w. Examples of the exclusions for which the FFS might not have been subjectively tested by the sponsor or the NSPM and for which qualification might not be sought or granted, as described in § 60.15(g)(6), include takeoffs and landing from slopes and pinnacles.

End Information

12. Additional Qualifications for a Currently Qualified FSTD (§ 60.16)

No additional regulatory or informational material applies to § 60.16, Additional Qualifications for a Currently Qualified FFS.

13. Previously Qualified FSTDs (§ 60.17)

Begin QPS Requirements

a. In instances where a sponsor plans to remove an FFS from active status for a period of less than two years, the following procedures apply:

(1) The NSPM must be notified in writing and the notification must include an estimate of the period that the FFS will be inactive.

(2) Continuing Qualification evaluations will not be scheduled during the inactive period.

(3) The NSPM will remove the FFS from the list of qualified FSTDs on a mutually established date not later than the date on which the first missed continuing qualification evaluation would have been scheduled.

(4) Before the FFS is restored to qualified status, it must be evaluated by the NSPM. The evaluation content and the time required to accomplish the evaluation is based on the number of continuing qualification evaluations and sponsor-conducted quarterly inspections missed during the period of inactivity.

(5) The sponsor must notify the NSPM of any changes to the original scheduled time out of service.

b. Simulators qualified prior to May 30, 2008, are not required to meet the general simulation requirements, the objective test requirements, and the subjective test requirements of attachments 1, 2, and 3, of this appendix as long as the simulator continues to meet the test requirements contained in the MQTG developed under the original qualification basis.

c. After (1 year after date of publication of the final rule in the **Federal Register**) each visual scene or airport model beyond the minimum required for the FSTD qualification level that is installed in and available for use in a qualified FSTD must meet the requirements described in Attachment 3 of this appendix.

End QPS Requirements

Begin Information

d. Other certificate holders or persons desiring to use an FFS may contract with FFS sponsors to use FFSs previously qualified at a particular level for a helicopter type and approved for use within an FAA-approved flight training program. Such FFSs are not required to undergo an additional qualification process, except as described in § 60.16.

e. Each FFS user must obtain approval from the appropriate TPAA to use any FFS in an FAA-approved flight training program.

f. The intent of the requirement listed in § 60.17(b), for each FFS to have a Statement of Qualification within 6 years, is to have the availability of that statement (including the configuration list and the limitations to authorizations) to provide a complete picture of the FFS inventory regulated by the FAA. The issuance of the statement will not require any additional evaluation or require any adjustment to the evaluation basis for the FFS.

g. Downgrading of an FFS is a permanent change in qualification level and will necessitate the issuance of a revised Statement of Qualification to reflect the revised qualification level, as appropriate. If a temporary restriction is placed on an FFS because of a missing, malfunctioning, or inoperative component or on-going repairs, the restriction is not a permanent change in qualification level. Instead, the restriction is temporary and is removed when the reason for the restriction has been resolved.

h. It is not the intent of the NSPM to discourage the improvement of existing simulation (e.g., the ''updating'' of a visual system to a newer model, or the replacement of the IOS with a more capable unit) by requiring the ''updated'' device to meet the qualification standards current at the time of the update. Depending on the extent of the update, the NSPM may require that the updated device be evaluated and may require that an evaluation include all or a portion of the elements of an initial evaluation. However, the standards against which the device would be evaluated are those that are found in the MQTG for that device.

i. The NSPM will determine the evaluation criteria for an FSTD that has been removed from active status. The criteria will be based on the number of continuing qualification evaluations and quarterly inspections missed during the period of inactivity. For example, if the FFS were out of service for a 1 year period, it would be necessary to complete the entire QTG, since all of the quarterly evaluations would have been missed. The NSPM will also consider how the FFS was stored, whether parts were removed from the FFS and whether the FFS was disassembled.

j. The FFS will normally be requalified using the FAA-approved MQTG and the criteria that was in effect prior to its removal from qualification. However, inactive periods of 2 years or more will require requalification under the standards in effect and current at the time of requalification.

End Information

14. Inspection, Continuing Qualification Evaluation, and Maintenance Requirements (§ 60.19)

Begin QPS Requirements

a. The sponsor must conduct a minimum of four evenly spaced inspections throughout the year. The objective test sequence and content of each inspection must be developed by the sponsor and must be acceptable to the NSPM.

b. The description of the functional preflight inspection must be contained in the sponsor's QMS.

c. Record ''functional preflight'' in the FFS discrepancy log book or other acceptable location, including any item found to be missing, malfunctioning, or inoperative.

d. During the continuing qualification evaluation conducted by the NSPM, the sponsor must also provide a person knowledgeable about the operation of the aircraft and the operation of the FFS.

e. The NSPM will conduct continuing qualification evaluations every 12 months unless:

(1) The NSPM becomes aware of discrepancies or performance problems with the device that warrants more frequent evaluations; or

(2) The sponsor implements a QMS that justifies less frequent evaluations. However, in no case shall the frequency of a continuing qualification evaluation exceed 36 months.

End QPS Requirements

Begin Information

f. The sponsor's test sequence and the content of each quarterly inspection required in § 60.19(a)(1) should include a balance and a mix from the objective test requirement areas listed as follows:

(1) Performance.

(2) Handling qualities.

(3) Motion system (where appropriate).

(4) Visual system (where appropriate).

(5) Sound system (where appropriate).

(6) Other FFS systems.

g. If the NSP evaluator plans to accomplish specific tests during a normal continuing qualification evaluation that requires the use of special equipment or technicians, the sponsor will be notified as far in advance of the evaluation as practical; but not less than 72 hours. Examples of such tests include latencies, control dynamics, sounds and vibrations, motion, and/or some visual system tests.

h. The continuing qualification evaluations, described in § 60.19(b), will normally require 4 hours of FFS time. However, flexibility is necessary to address abnormal situations or situations involving aircraft with additional levels of complexity (e.g., computer controlled aircraft). The sponsor should anticipate that some tests may require additional time. The continuing qualification evaluations will consist of the following:

(1) Review of the results of the quarterly inspections conducted by the sponsor since the last scheduled continuing qualification evaluation.

(2) A selection of approximately 8 to 15 objective tests from the MQTG that provide an adequate opportunity to evaluate the performance of the FFS. The tests chosen will be performed either automatically or manually and should be able to be conducted within approximately one-third (1/3) of the allotted FFS time.

(3) A subjective evaluation of the FFS to perform a representative sampling of the tasks set out in attachment 3 of this appendix. This portion of the evaluation should take approximately two-thirds (2/3) of the allotted FFS time.

(4) An examination of the functions of the FFS may include the motion system, visual system, sound system, instructor operating

station, and the normal functions and simulated malfunctions of the simulated helicopter systems. This examination is normally accomplished simultaneously with the subjective evaluation requirements.

End Information

15. Logging FSTD Discrepancies (§ 60.20)

Begin Information

No additional regulatory or informational material applies to § 60.20. Logging FFS Discrepancies.

End Information

16. Interim Qualification of FSTDs for New Helicopter Types or Models (§ 60.21)

Begin Information

No additional regulatory or informational material applies to § 60.21, Interim Qualification of FFSs for New Helicopter Types or Models.

End Information

17. Modifications to FSTDs (§ 60.23)

Begin QPS Requirements

a. The notification described in § 60.23(c)(2) must include a complete description of the planned modification, with a description of the operational and engineering effect the proposed modification will have on the operation of the FFS and the results that are expected with the modification incorporated.

b. Prior to using the modified FFS:

(1) All the applicable objective tests completed with the modification incorporated, including any necessary updates to the MQTG (e.g., accomplishment of FSTD Directives) must be acceptable to the NSPM; and

(2) The sponsor must provide the NSPM with a statement signed by the MR that the factors listed in § 60.15(b) are addressed by the appropriate personnel as described in that section.

End QPS Requirements

Begin Information

(3) FSTD Directives are considered modifications of an FFS. See Attachment 4 for a sample index of effective FSTD Directives. See Attachment 6 for a list of all effective FSTD Directives applicable to Helicopter FFSs.

End Information

18. Operation with Missing, Malfunctioning, or Inoperative Components (§ 60.25)

Begin Information

a. The sponsor's responsibility with respect to § 60.25(a) is satisfied when the sponsor fairly and accurately advises the user of the current status of an FFS, including any missing, malfunctioning, or inoperative (MMI) component(s).

b. If the 29th or 30th day of the 30-day period described in § 60.25(b) is on a Saturday, a Sunday, or a holiday, the FAA will extend the deadline until the next business day.

c. In accordance with the authorization described in § 60.25(b), the sponsor may develop a discrepancy prioritizing system to accomplish repairs based on the level of impact on the capability of the FFS. Repairs having a larger impact on FFS capability to provide the required training, evaluation, or flight experience will have a higher priority for repair or replacement.

End Information

19. Automatic Loss of Qualification and Procedures for Restoration of Qualification (§ 60.27)

Begin Information

If the sponsor provides a plan for how the FFS will be maintained during its out-of-service period (e.g., periodic exercise of mechanical, hydraulic, and electrical systems; routine replacement of hydraulic fluid; control of the environmental factors in which the FFS is to be maintained) there is a greater likelihood that the NSPM will be able to determine the amount of testing required for requalification.

End Information

20. Other Losses of Qualification and Procedures for Restoration of Qualification (§ 60.29)

Begin Information

If the sponsor provides a plan for how the FFS will be maintained during its out-of-service period (e.g., periodic exercise of mechanical, hydraulic, and electrical systems; routine replacement of hydraulic fluid; control of the environmental factors in which the FFS is to be maintained) there is a greater likelihood that the NSPM will be able to determine the amount of testing required for requalification.

End Information

21. Recordkeeping and Reporting (§ 60.31)

Begin QPS Requirements

a. FSTD modifications can include hardware or software changes. For FSTD modifications involving software programming changes, the record required by § 60.31(a)(2) must consist of the name of the aircraft system software, aerodynamic model, or engine model change, the date of the change, a summary of the change, and the reason for the change.

b. If a coded form for record keeping is used, it must provide for the preservation and retrieval of information with appropriate security or controls to prevent the inappropriate alteration of such records after the fact.

End QPS Requirements

22. Applications, Logbooks, Reports, and Records: Fraud, Falsification, or Incorrect Statements (§ 60.33)

Begin Information

No additional regulatory or informational material applies to § 60.33, Applications, Logbooks, Reports, and Records: Fraud, Falsification, or Incorrect Statements.

23. [Reserved]

24. [Reserved]

25. FSTD Qualification on the Basis of a Bilateral Aviation Safety Agreement (BASA) (§ 60.37)

No additional regulatory or informational material applies to § 60.37, FSTD Qualification on the Basis of a Bilateral Aviation Safety Agreement (BASA).

End Information

Attachment 1 to Appendix C to Part 60—General Simulator Requirements

Begin QPS Requirements

1. Requirements

a. Certain requirements included in this appendix must be supported with a Statement of Compliance and Capability (SOC), which may include objective and subjective tests. The SOC will confirm that the requirement was satisfied, and describe how the requirement was met, such as gear modeling approach or coefficient of friction sources. The requirements for SOCs and tests are indicated in the ''General Simulator Requirements'' column in Table C1A of this appendix.

b. Table C1A describes the requirements for the indicated level of FFS. Many devices include operational systems or functions that exceed the requirements outlined in this section. However, all systems will be tested and evaluated in accordance with this appendix to ensure proper operation.

End QPS Requirements

Begin Information

2. Discussion

a. This attachment describes the general simulator requirements for qualifying a helicopter FFS. The sponsor should also consult the objective tests in Attachment 2 and the examination of functions and subjective tests listed in Attachment 3 to determine the complete requirements for a specific level simulator.

b. The material contained in this attachment is divided into the following categories:

(1) General flight deck configuration.
(2) Simulator programming.
(3) Equipment operation.
(4) Equipment and facilities for instructor/evaluator functions.
(5) Motion system.
(6) Visual system.
(7) Sound system.

c. Table C1A provides the standards for the General Simulator Requirements.

d. Table C1B provides the tasks that the sponsor will examine to determine whether the FSTD satisfactorily meets the requirements for flight crew training, testing, and experience, and provides the tasks for which the simulator may be qualified.

e. Table C1C provides the functions that an instructor/check airman must be able to control in the simulator.

f. It is not required that all of the tasks that appear on the List of Qualified Tasks (part of the SOQ) be accomplished during the initial or continuing qualification evaluation.

g. Table C1A addresses only Levels B, C, and D helicopter simulators because there are no Level A Helicopter simulators.

End Information 1

TABLE C1A.—MINIMUM SIMULATOR REQUIREMENTS

Number	<<<QPS requirements>>>	Simulator levels			<<Information>>
	General Simulator Requirements	B	C	D	Notes
1. General Flight Deck Configuration					
1.a.	The simulator must have a flight deck that is a replica of the helicopter being simulated. The simulator must have controls, equipment, observable flight deck indicators, circuit breakers, and bulkheads properly located, functionally accurate and replicating the helicopter. The direction of movement of controls and switches must be identical to that in the helicopter. Pilot seats must afford the capability for the occupant to be able to achieve the design "eye position" established for the helicopter being simulated. Equipment for the operation of the flight deck windows must be included, but the actual windows need not be operable. Fire axes, extinguishers, and spare light bulbs must be available in the FFS but may be relocated to a suitable location as near as practical to the original position. Fire axes, landing gear pins, and any similar purpose instruments need only be represented in silhouette. An SOC is required.	X	X	X	For simulator purposes, the flight deck consists of all that space forward of a cross section of the fuselage at the most extreme aft setting of the pilots' seats including additional, required flight crewmember duty stations and those required bulkheads aft of the pilot seats. For clarification, bulkheads containing only items such as landing gear pin storage compartments, fire axes or extinguishers, spare light bulbs, and aircraft documents pouches are not considered essential and may be omitted.
1.b.	Those circuit breakers that affect procedures and/or result in observable flight deck indications must be properly located and functionally accurate An SOC is required.	X	X	X	
2. Programming					
2.a.	A flight dynamics model that accounts for various combinations of drag and thrust normally encountered in flight must correspond to actual flight conditions, including the effect of change in helicopter attitude, thrust, drag, altitude, temperature, gross weight, moments of inertia, center of gravity location, and configuration. An SOC is required.	X	X	X	
2.b.	The simulator must have the computer capacity, accuracy, resolution, and dynamic response needed to meet the qualification level sought. An SOC is required.	X	X	X	
2.c.	Ground handling and aerodynamic programming must include the following: A subjective test is required.				
2.c.1.	Ground effect ..... Level B does not require hover programming. An SOC is required.	X	X	X	Applicable areas include flare and touch down from a running landing as well as for in-ground-effect (IGE) hover. A reasonable simulation of ground effect includes modeling of lift, drag, pitching moment, trim, and power while in ground effect.

TABLE C1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

Number	<<<QPS requirements>>>	Simulator levels			<<Information>>
	General Simulator Requirements	B	C	D	Notes
2.c.2.	Ground reaction ..... Level B does not require hover programming. An SOC is required.	X	X	X	Reaction of the helicopter upon contact with the landing surface during landing (e.g., strut deflection, tire or skid friction, side forces) may differ with changes in gross weight, airspeed, rate of descent on touchdown, and slide slip.
2.d.	The simulator must provide for manual and automatic testing of simulator hardware and software programming to determine compliance with simulator objective tests as prescribed in Attachment 2. An SOC is required.		X	X	This may include an automated system, which could be used for conducting at least a portion of the QTG tests. Automatic ''flagging'' of out-of-tolerance situations is encouraged.
2.e.	The relative responses of the motion system, visual system, and flight deck instruments must be measured by latency tests or transport delay tests. Motion onset should occur before the start of the visual scene change (the start of the scan of the first video field containing different information) but must occur before the end of the scan of that video field. Instrument response may not occur prior to motion onset. Test results must be within the following limits:				The intent is to verify that the simulator provides instrument, motion, and visual cues that are like the helicopter responses within the stated time delays. For helicopter response, acceleration in the appropriate corresponding rotational axis is preferred.
2.e.1.	Response must be within 150 milliseconds of the helicopter response. Objective Tests are required. See Attachment 2 for Transport Delay and Latency Tests.	X			
2.e.2.	Response must be within 100 milliseconds of the helicopter response. Objective Tests are required. See Attachment 2 for Transport Delay and Latency Tests.		X	X	
2.f.	The simulator must simulate brake and tire failure dynamics (including antiskid failure, if appropriate). An SOC is required.		X	X	Simulator pitch, side loading, and directional control characteristics should be representative of the helicopter.
2.g.	The aerodynamic modeling in the simulator must include: (1) Ground effect, (2) Effects of airframe and rotor icing (if applicable),. (3) Aerodynamic interference effects between the rotor wake and fuselage,. (4) Influence of the rotor on control and stabilization systems,. (5) Representations of settling with power, and. (6) Retreating blade stall.. An SOC is required. A demonstration of icing effects (if applicable) is required.		X	X	See Attachment 2 for further information on ground effect.
2.h.	The simulator must provide for realistic mass properties, including gross weight, center of gravity, and moments of inertia as a function of payload and fuel loading. An SOC is required and must include a range of tabulated target values to enable a subjective test of the mass properties model to be conducted from the instructor's station.	X	X	X	

3. Equipment Operation

TABLE C1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

Number	<<<QPS requirements>>>	Simulator levels			<<Information>>
	General Simulator Requirements	B	C	D	Notes
3.a.	All relevant instrument indications involved in the simulation of the helicopter must automatically respond to control movement or external disturbances to the simulated helicopter; e.g., turbulence or windshear. Numerical values, must be presented in the appropriate units. A subjective test is required.	X	X	X	
3.b.	Communications, navigation, caution, and warning equipment must be installed and operate within the tolerances applicable for the helicopter being simulated. A subjective test is required.	X	X	X	See Attachment 3 for further information regarding long-range navigation equipment.
3.c.	Simulated helicopter systems must operate as the helicopter systems would operate under normal, abnormal, and emergency operating conditions on the ground and in flight. A subjective test is required.	X	X	X	
3.d.	The simulator must provide pilot controls with control forces and control travel that correspond to the simulated helicopter. The simulator must also react in the same manner as the helicopter under the same flight conditions. An objective test is required.	X	X	X	
3.e.	Simulator control feel dynamics must replicate the helicopter simulated. This must be determined by comparing a recording of the control feel dynamics of the simulator to helicopter measurements. For initial and upgrade evaluations, the control dynamic characteristics must be measured and recorded directly from the flight deck controls, and must be accomplished in takeoff, cruise, and landing conditions and configurations. Objective tests are required.		X	X	
4. Instructor/Evaluator Facilities					
4.a.	In addition to the flight crewmember stations, the simulator must have at least two suitable seats for the instructor/check airman and FAA inspector. These seats must provide adequate vision to the pilot's panel and forward windows. All seats other than flight crew seats need not represent those found in the helicopter but must be adequately secured to the floor and equipped with similar positive restraint devices. A subjective test is required.	X	X	X	The NSPM will consider alternatives to this standard for additional seats based on unique flight deck configurations.
4.b.	The simulator must have controls that enable the instructor/evaluator to control all required system variables and insert all abnormal or emergency conditions into the simulated helicopter systems as described in the sponsor's FAA-approved training program, or as described in the relevant operating manual as appropriate. A subjective test is required.	X	X	X	
4.c.	The simulator must have instructor controls for environmental conditions including wind speed and direction. A subjective test is required.	X	X	X	
4.d.	The simulator must provide the instructor or evaluator the ability to present ground and air hazards. A subjective test is required.		X	X	For example, another aircraft crossing the active runway and converging airborne traffic.

TABLE C1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

Number	<<<QPS requirements>>>	Simulator levels			<<Information>>
	General Simulator Requirements	B	C	D	Notes
4.e.	The simulator must provide the instructor or evaluator the ability to present the effect of re-circulating dust or snow conditions that develop as a result of rotor downwash. A subjective test is required.		X	X	This is a selectable condition that is not required for all operations on or near the ground.
5. Motion System					
5.a.	The simulator must have motion (force) cues perceptible to the pilot that are representative of the motion in a helicopter.	X	X	X	For example, touchdown cues should be a function of the rate of descent (RoD) of the simulated helicopter.
	A subjective test is required.				
5.b.	The simulator must have a motion (force cueing) system with a minimum of three degrees of freedom (at least pitch, roll, and heave). An SOC is required.	X			
5.c.	The simulator must have a motion (force cueing) system that produces cues at least equivalent to those of a six-degrees-of-freedom, synergistic platform motion system (i.e., pitch, roll, yaw, heave, sway, and surge). An SOC is required.		X	X	
5.d.	The simulator must provide for the recording of the motion system response time. An SOC is required.	X	X	X	
5.e.	The simulator must provide motion effects programming to include the following: (1) Runway rumble, oleo deflections, effects of ground speed, uneven runway, characteristics. (2) Buffets due to transverse flow effects. (3) Buffet during extension and retraction of landing gear. (4) Buffet due to retreating blade stall. (5) Buffet due to settling with power. (6) Representative cues resulting from touchdown. (7) Rotor vibrations. A subjective test is required for each.	X	X	X	
	(8) Tire failure dynamics ..... (9) Engine malfunction and engine damage. (10) Airframe ground strike. A subjective test is required for each.		X	X	
	(11) Motion vibrations that result from atmospheric disturbances.			X	For air turbulence, general purpose disturbance models that approximate demonstrable flight test data are acceptable.
5.f.	The simulator must provide characteristic motion vibrations that result from operation of the helicopter (for example, retreating blade stall, extended landing gear, settling with power) in so far as vibration marks an event or helicopter state, which can be sensed in the flight deck. A subjective test is required. An objective test is required.			X	The simulator should be programmed and instrumented in such a manner that the characteristic buffet modes can be measured and compared to helicopter data.
6.	**Visual System**				Additional horizontal field of view capability may be added at the sponsor's discretion provided the minimum field of view is retained.
6.a.	The simulator must have a visual system providing an out-of-the-flight deck view. A subjective test is required.	X	X	X	

TABLE C1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

Number	<<<QPS requirements>>>	Simulator levels			<<Information>>
	General Simulator Requirements	B	C	D	Notes
6.b.	The simulator must provide a continuous field of view of at least 75° horizontally and 30° vertically per pilot seat. Both pilot seat visual systems must be operable simultaneously. The minimum horizontal field of view coverage must be plus and minus one-half (½) of the minimum continuous field of view requirement, centered on the zero degree azimuth line relative to the aircraft fuselage. An SOC must explain the geometry of the installation. An SOC is required.	X			
6.c.	The simulator must provide a continuous visual field of view of at least 146° horizontally and 36° vertically per pilot seat. Both pilot seat visual systems must be operable simultaneously. Horizontal field of view is centered on the zero degree azimuth line relative to the aircraft fuselage. The minimum horizontal field of view coverage must be plus and minus one-half (½) of the minimum continuous field of view requirement, centered on the zero degree azimuth line relative to the aircraft fuselage. An SOC must explain the geometry of the installation. Capability for a field of view in excess of the minimum is not required for qualification at Level C. However, where specific tasks require extended fields of view beyond the 146° by 36° (e.g., to accommodate the use of "chin windows" where the accommodation is either integral with or separate from the primary visual system display), then the extended fields of view must be provided. When considering the installation and use of augmented fields of view, the sponsor must meet with the NSPM to determine the training, testing, checking, and experience tasks for which the augmented field of view capability may be required. An SOC is required. A subjective test is required.		X		Optimization of the vertical field of view may be considered with respect to the specific helicopter flight deck cut-off angle. The sponsor may request the NSPM to evaluate the FFS for specific authorization(s) for the following: (1) Specific areas within the database needing higher resolution to support landings, take-offs and ground cushion exercises and training away from a heliport, including elevated heliport, helidecks and confined areas. (2) For cross-country flights, sufficient scene details to allow for ground to map navigation over a sector length equal to 30 minutes at an average cruise speed. (3) For offshore airborne radar approaches (ARA), harmonized visual/radar representations of installations.
6.d.	The simulator must provide a continuous visual field of view of at least 176° horizontally and 56° vertically per pilot seat. Both pilot seat visual systems must be operable simultaneously. Horizontal field of view is centered on the zero degree azimuth line relative to the aircraft fuselage. The minimum horizontal field of view coverage must be plus and minus one-half (½) of the minimum continuous field of view requirement, centered on the zero degree azimuth line relative to the aircraft fuselage. An SOC must explain the geometry of the installation. Capability for a field of view in excess of the minimum is not required for qualification at the Zero Flight Time (ZFT) level. However, where specific tasks require extended fields of view beyond the 176° by 56° (e.g., to accommodate the use of "chin windows" where the accommodation is either integral with or separate from the primary visual system display), then the extended fields of view must be provided. When considering the installation and use of augmented fields of view, the sponsor must meet with the NSPM to determine the training, testing, checking, and experience tasks for which the augmented field of view capability may be required. An SOC is required. An objective test is required.			X	Optimization of the vertical field of view may be considered with respect to the specific airplane flight deck cut-off angle. The sponsor may request the NSPM to evaluate the FFS for specific authorization(s) for the following: (1) Specific areas within the database needing higher resolution to support landings, take-offs and ground cushion exercises and training away from a heliport, including elevated heliport, helidecks and confined areas. (2) For cross-country flights, sufficient scene details to allow for ground to map navigation over a sector length equal to 30 minutes at an average cruise speed. (3) For offshore airborne radar approaches (ARA), harmonized visual/radar representations of installations.
6.e.	The visual system must be free from optical discontinuities and artifacts that create non-realistic cues. A subjective test is required.	X	X	X	Non-realistic cues might include image "swimming" and image "roll-off," that may lead a pilot to make incorrect assessments of speed, acceleration and/or situational awareness.

TABLE C1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

Number	<<<QPS requirements>>>	Simulator levels			<<Information>>
	General Simulator Requirements	B	C	D	Notes
6.f.	The simulator must have operational landing lights for night scenes. Where used, dusk (or twilight) scenes require operational landing lights. A subjective test is required.	X	X	X	
6.g.	The simulator must have instructor controls for the following: (1) Visibility in statute miles (kilometers) and runway visual range (RVR) in ft. (meters). (2) Airport or landing area selection. (3) Airport or landing area lighting. A subjective test is required.	X	X	X	
6.h.	Each airport scene displayed must include the following: (1) Airport runways and taxiways. (2) Runway definition: (a) Runway surface and markings. (b) Lighting for the runway in use, including runway threshold, edge, centerline, touchdown zone, VASI (or PAPI), and approach lighting of appropriate colors, as appropriate. (c) Taxiway lights. A subjective test is required.	X	X	X	
6.i.	The distances at which runway features are visible, as measured from runway threshold to a helicopter aligned with the runway on an extended 3° glide slope must not be less than listed below: (1) Runway definition, strobe lights, approach lights, runway edge white lights and VASI or PAPI system lights from 5 statute miles (8 km) of the runway threshold. (2) Runway centerline lights and taxiway definition from 3 statute miles (4.8 km). (3) Threshold lights and touchdown zone lights from 2 statute miles (3.2 km). (4) Runway markings within range of landing lights for night scenes and as required by three (3) arc-minutes resolution on day scenes. A subjective test is required.	X	X	X	
6.j.	The simulator must provide visual system compatibility with dynamic response programming. A subjective test is required.	X	X	X	
6.k.	The simulator must show that the segment of the ground visible from the simulator flight deck is the same as from the helicopter flight deck (within established tolerances) when at the correct airspeed and altitude, at a main wheel height of 100 feet (30 meters) above the touchdown zone. An SOC is required. An objective test is required.	X	X	X	This will show the modeling accuracy of the scene with respect to a pre-determined position from the end of the runway ''in use.''
6.l.	The simulator must provide visual cues necessary to assess rate of change of height, height AGL, and translational displacement and rates during takeoffs and landings. A subjective test is required.	X			
6.m.	The simulator must have night and dusk (or twilight) visual scene capability, including general terrain characteristics and significant landmarks, free from apparent quantization. The dusk (or twilight) scene must enable identification of a visible horizon and general terrain characteristics. A subjective test is required.		X	X	Examples of general terrain characteristics are fields, roads, and bodies of water.

TABLE C1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

Number	<<<QPS requirements>>>	Simulator levels			<<Information>>
	General Simulator Requirements	B	C	D	Notes
6.n.	The simulator must provide visual cues necessary to assess rate of change of height, height AGL, as well as translational displacement and rates during takeoff, low altitude/low airspeed maneuvering, hover, and landing. A subjective test is required.		X	X	
6.o.	The simulator must provide for accurate portrayal of the visual environment relating to the simulator attitude. A subjective test is required.	X	X	X	Visual attitude vs. simulator attitude is a comparison of pitch and roll of the horizon as displayed in the visual scene compared to the display on the attitude indicator.
6.p	The simulator must provide for quick confirmation of visual system color, RVR, focus, and intensity. An SOC is required. A subjective test is required.		X	X	
6.q.	The simulator must be capable of producing at least 10 levels of occulting. A subjective test is required.		X	X	
6.r.	Night Visual Scenes. The simulator must provide night visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. Night scenes, as a minimum, must provide presentations of sufficient surfaces with appropriate textural cues that include self-illuminated objects such as road networks, ramp lighting, and airport signage, to conduct a visual approach, a landing, and airport movement (taxi). Scenes must include a definable horizon and typical terrain characteristics such as fields, roads and bodies of water and surfaces illuminated by airplane landing lights.	X	X	X	
6.s.	Dusk (Twilight) Visual Scenes. The simulator must provide dusk (or twilight) visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. Dusk (or twilight) scenes, as a minimum, must provide full color presentations of reduced ambient intensity, sufficient surfaces with appropriate textural cues that include self-illuminated objects such as road networks, ramp lighting and airport signage, to conduct a visual approach, landing and airport movement (taxi). Scenes must include a definable horizon and typical terrain characteristics such as fields, roads and bodies of water and surfaces illuminated by representative aircraft lighting (e.g., landing lights). If provided, directional horizon lighting must have correct orientation and be consistent with surface shading effects. Total scene content must be comparable in detail to that produced by 10,000 visible textured surfaces and 15,000 visible lights with sufficient system capacity to display 16 simultaneously moving objects. An SOC is required.		X	X	

TABLE C1A.—MINIMUM SIMULATOR REQUIREMENTS—Continued

Number	<<<QPS requirements>>>	Simulator levels			<<Information>>
	General Simulator Requirements	B	C	D	Notes
6.t.	Daylight Visual Scenes. The simulator must have daylight visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. No ambient lighting may ''washout'' the displayed visual scene. Total scene content must be comparable in detail to that produced by 10,000 visible textured surfaces and 6,000 visible lights with sufficient system capacity to display 16 simultaneously moving objects. The visual display must be free of apparent quantization and other distracting visual effects while the simulator is in motion. Note: These requirements are applicable to any level of simulator equipped with a daylight visual system. An SOC is required.			X	
	A subjective test is required. Objective tests are required.				
6.w.	The simulator must provide operational visual scenes that portray physical relationships known to cause landing illusions to pilots. A subjective test is required.			X	For example: short runways, landing approaches over water, uphill or downhill runways, rising terrain on the approach path, unique topographic features.
6.x.	The simulator must provide special weather representations of light, medium, and heavy precipitation near a thunderstorm on takeoff and during approach and landing. Representations need only be presented at and below an altitude of 2,000 ft. (610 m) above the airport surface and within 10 miles (16 km) of the airport. A subjective test is required.			X	
6.y.	The simulator must present visual scenes of wet and snow-covered runways, including runway lighting reflections for wet conditions, and partially obscured lights for snow conditions. A subjective test is required.			X	The NSPM will consider suitable alternative effects.
6.z.	The simulator must present realistic color and directionality of all airport lighting. A subjective test is required.			X	
7.a.	The simulator must provide flight deck sounds that result from pilot actions that correspond to those that occur in the helicopter.	X	X	X	
7.b.	Volume control, if installed, must have an indication of the sound level setting.	X	X	X	
7.c.	The simulator must accurately simulate the sound of precipitation, windshield wipers, and other significant helicopter noises perceptible to the pilot during normal and abnormal operations, and include the sound of a crash (when the simulator is landed in an unusual attitude or in excess of the structural gear limitations); normal engine sounds; and the sounds of gear extension and retraction. An SOC is required. A subjective test is required.		X	X	
7.d.	The simulator must provide realistic amplitude and frequency of flight deck noises and sounds. Simulator performance must be recorded, compared to amplitude and frequency of the same sounds recorded in the helicopter, and made a part of the QTG. An objective test is required.			X	

TABLE C1B.—TABLE OF TASKS VS. SIMULATOR LEVEL

Number	<<<QPS requirements>>>	Simulator levels			Information
	Subjective Requirements The simulator must be able to perform the tasks associated with that level of qualification.	B	C	D	Notes
1. Preflight Procedures					
1.a.	Preflight Inspection (Flight deck only) switches, indicators, systems, and equipment	X	X	X	
1.b.	APU/Engine start and run-up.				
1.b.1. ...	Normal start procedures	X	X	X	
1.b.2. ...	Alternate start procedures	X	X	X	
1.b.3. ...	Abnormal starts and shutdowns (hot start, hung start)	X	X	X	
1.c.	Taxiing—Ground	X	X	X	
1.d.	Taxiing—Hover	X	X	X	
1.e.	Pre-takeoff Checks	X	X	X	
2. Takeoff and Departure Phase					
2.a.	Normal takeoff				
2.a.1. ...	From ground	X	X	X	
2.a.2. ...	From hover	X	X	X	
2.a.3. ...	Running	X	X	X	
2.b.	Instrument	X	X	X	
2.c.	Powerplant Failure During Takeoff	X	X	X	
2.d.	Rejected Takeoff	X	X	X	
2.e.	Instrument Departure	X	X	X	
3. Climb					
3.a.	Normal	X	X	X	
3.b.	Obstacle clearance	X	X	X	
3.c.	Vertical	X	X	X	
3.d.	One engine inoperative	X	X	X	
4. In-flight Maneuvers					
4.a.	Turns (timed, normal, steep)	X	X	X	
4.b.	Powerplant Failure—Multiengine Helicopters	X	X	X	
4.c.	Powerplant Failure—Single-Engine Helicopters	X	X	X	
4.d.	Recovery From Unusual Attitudes	X	X	X	
4.e.	Settling with Power	X	X	X	
4.f.	Specific Flight Characteristics incorporated into the user's FAA approved flight training program.	A	A	A	
5. Instrument Procedures					
5.a.	Instrument Arrival	X	X	X	
5.b.	Holding	X	X	X	
5.c.	Precision Instrument Approach				
5.c.1.	Normal—All engines operating	X	X	X	

TABLE C1B.—TABLE OF TASKS VS. SIMULATOR LEVEL—Continued

Number	<<<QPS requirements>>>	Simulator levels			Information
	Subjective Requirements The simulator must be able to perform the tasks associated with that level of qualification.	B	C	D	Notes
5.c.2.	Manually controlled—One or more engines inoperative	X	X	X	
5.d.	Non-precision Instrument Approach	X	X	X	
5.e.	Missed Approach				
5.e.1. ...	All engines operating	X	X	X	
5.e.2. ...	One or more engines inoperative	X	X	X	
5.e.3. ...	Stability augmentation system failure	X	X	X	
6. Landings and Approaches to Landings					
6.a.	Visual Approaches (normal, steep, shallow)	X	X	X	
6.b.	Landings				
6.b.1. ...	Normal/crosswind				
6.b.1.a.	Running	X	X	X	
6.b.1.b.	From Hover	X	X	X	
6.b.2. ...	One or more engines inoperative	X	X	X	
6.b.3. ...	Rejected Landing	X	X	X	
7. Normal and Abnormal Procedures					
7.a.	Powerplant	X	X	X	
7.b.	Fuel System	X	X	X	
7.c.	Electrical System	X	X	X	
7.d.	Hydraulic System	X	X	X	
7.e.	Environmental System(s)	X	X	X	
7.f.	Fire Detection and Extinguisher Systems	X	X	X	
7.g.	Navigation and Aviation Systems	X	X	X	
7.h.	Automatic Flight Control System, Electronic Flight Instrument System, and Related Subsystems.	X	X	X	
7.i.	Flight Control Systems	X	X	X	
7.j.	Anti-ice and Deice Systems	X	X	X	
7.k.	Aircraft and Personal Emergency Equipment	X	X	X	
7.l.	Special Missions tasks (e.g., Night Vision goggles, Forward Looking Infrared System, External Loads and as may be listed on the Statement of Qualification.).	A	A	X	
8. Emergency Procedures (as applicable)					
8.a.	Emergency Descent	X	X	X	
8.b.	Inflight Fire and Smoke Removal	X	X	X	
8.c.	Emergency Evacuation	X	X	X	
8.d.	Ditching	X	X	X	
8.e.	Autorotative Landing	X	X	X	
8.f.	Retreating blade stall recovery	X	X	X	

TABLE C1B.—TABLE OF TASKS VS. SIMULATOR LEVEL—Continued

Number	<<<QPS requirements>>>	Simulator levels			Information
	Subjective Requirements The simulator must be able to perform the tasks associated with that level of qualification.	B	C	D	Notes
8.g.	Mast bumping	X	X	X	
8.h.	Loss of tail rotor effectiveness	X	X	X	
9. Postflight Procedures					
9.a.	After-Landing Procedures	X	X	X	
9.b.	Parking and Securing				
9.b.1. ...	Rotor brake operation	X	X	X	
9.b.2. ...	Abnormal/emergency procedures	X	X	X	

Note: An "A" in the table indicates that the system, task, or procedure may be examined if the appropriate aircraft system or control is simulated in the FSTD and is working properly.

TABLE C1C.—TABLE OF TASKS VS. SIMULATOR LEVEL

<<<QPS requirements>>>					Information notes
Number	Subjective requirements The simulator must be able to perform the tasks associated with that level of qualification	Simulator levels			
		B	C	D	
1.	**Instructor Operating Station (IOS), as appropriate**				
1.a.	Power switch(es)	X	X	X	
1.b.	Helicopter conditions	X	X	X	e.g., GW, CG, Fuel loading, Systems, Ground Crew.
1.c.	Airports/Heliports/Helicopter Landing Areas	X	X	X	e.g., Selection, Surface, Presets, Lighting controls.
1.d.	Environmental controls	X	X	X	e.g., Clouds, Visibility, RVR, Temp, Wind, Ice, Snow, Rain, and Windshear.
1.e.	Helicopter system malfunctions (Insertion/deletion)	X	X	X	
1.f.	Locks, Freezes, and Repositioning	X	X	X	
2.	**Sound Control**				
2.a.	On/off/adjustment	X	X	X	
3.	**Motion/Control Loading System**				
3.a.	On/off/emergency stop	X	X	X	
4.	**Observer Seats/Stations**				
4.a.	Position/Adjustment/Positive restraint system	X	X	X	

Attachment 2 to Appendix C to Part 60—Full Flight Simulator Objective Tests

Begin Information

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8.	Additional Information About Flight Simulator Qualification for New or Derivative Helicopter.
9.	Engineering Simulator—Validation Data.
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11.	Validation Test Tolerances.
12.	Validation Data Roadmap.
13.	Acceptance Guidelines for Alternative Engines Data.
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17	Alternative Data Sources, Procedures, and Instrumentation: Level A and Level B Simulators Only.

1. Introduction

a. If relevant winds are present in the objective data, the wind vector (magnitude and direction) should be clearly noted as part of the data presentation, expressed in conventional terminology, and related to the runway being used for the test.

b. The NSPM will not evaluate any simulator unless the required SOC indicates that the motion system is designed and manufactured to safely operate within the simulator's maximum excursion, acceleration, and velocity capabilities (see Motion System in the following table).

c. Table C2A addresses helicopter simulators at Levels B, C, and D because there are no Level A Helicopter simulators.

End Information

Begin QPS Requirements

2. Test Requirements

A. The ground and flight tests required for qualification are listed in Table C2A. FFS Objective Tests. Computer generated simulator tests results must be provided for each test except where an alternative test is specifically authorized by the NSPM. If a flight condition or operating condition is required for the test but does not apply to the helicopter being simulated or to be qualification level sought, it may be disregarded (e.g., an engine out missed approached for a single-engine helicopter, or a hover test for a Level B simulator) Each test result if compared against the validation data described in § 6013 and in this appendix. Although use of a driver program designed to automatically accomplish the test is encouraged for all simulators and required for level C and Level D simulators, each test must be able to be accomplished manually while recording all appropriate parameters. The request must be produced on an appropriate recording device accepted to the NSPM and must include simulator number, data, time, condition, tolerances, and appropriate dependent variables portrayed in comparison to the validation data. Time histories are required unless otherwise indicated in Table C2A. All results must be labeled using the tolerances and units given.

b. Table C2A sets out the test results required, including the parameters, tolerances, and flight conditions for simulator validation. Tolerances are provided for the listed tests because mathematical modeling and acquisition/development of reference data are often inexact. All tolerances listed in the following tables are applied to simulator performance. When two tolerance values are given for a parameter, the less restrictive value may be used unless otherwise indicated.

c. Certain tests included in this attachment must be supported with a Statement of Compliance and Capability (SOC). In Table C2A, requirements for SOCs are indicated in the ''Test Details'' column.

d. When operational or engineering judgment is used in making assessments for flight test data applications for simulator validity, such judgment may not be limited to a single parameter. For example, data that exhibit rapid variations of the measured parameters may require interpolations or a ''best fit'' data selection. All relevant parameters related to a given maneuver or flight condition must be provided to allow overall interpretation. When it is difficult or impossible to match simulator to helicopter data throughout a time history, differences must be justified by providing a comparison of other related variables for the condition being assessed.

e. The FFS may not be programmed so that the mathematical modeling is correct only at the validation test points. Unless noted otherwise, simulator tests must represent helicopter performance and handling qualities at operating weights and centers of gravity (CG) typical of normal operation. If a test is supported by helicopter data at one extreme weight or CG, another test supported by helicopter data at mid-conditions or as close as possible to the other extreme must be included. Certain tests that are relevant only at one extreme CG or weight condition need not be repeated at the other extreme. Tests of handling qualities must include validation of augmentation devices.

f. When comparing the parameters listed to those of the helicopter, sufficient data must also be provided to verify the correct flight condition and helicopter configuration changes. For example, to show that control force is within ±0.5 pound (0.22 daN) in a static stability test, data to show the correct airspeed, power, thrust or torque, helicopter configuration, altitude, and other appropriate datum identification parameters must also be given. If comparing short period dynamics, normal acceleration may be used to establish a match to the helicopter, but airspeed, altitude, control input, helicopter configuration, and other appropriate data must also be given. All airspeed values must be properly annotated (e.g., indicated versus calibrated). In addition, the same variables

must be used for comparison (e.g., compare inches to inches rather than inches to centimeters).

g. The QTG provided by the sponsor must clearly describe how the simulator will be set up and operated for each test. Each simulator subsystem may be tested independently, but overall integrated testing of the simulator must be accomplished to assure that the total simulator system meets the prescribed standards. A manual test procedure with explicit and detailed steps for completing each test must also be provided.

h. In those cases where the objective test results authorize a ''snapshot test'' or a ''series of snapshot test results'' in lieu of a time-history result, the sponsor or other data provider must ensure that a steady state condition exists at the instant of time captured by the ''snapshot.'' The steady state condition must exist from 4 seconds prior to, through 1 second following, the instant of time captured by the snap shot.

i. For previously qualified simulators, the tests and tolerances of this attachment may be used in subsequent continuing qualification evaluations for any given test if the sponsor has submitted a proposed MQTG revision to the NSPM and has received NSPM approval.

j. Motion System Tests:

(a) The minimum excursions, accelerations, and velocities for pitch, roll, and yaw must be measurable about a single, common reference point and must be achieved by driving one degree of freedom at a time.

(b) The minimum excursions, accelerations, and velocities for heave, sway, and surge may be measured about different, identifiable reference points and must be achieved by driving one degree of freedom at a time.

k. Tests of handling qualities must include validation of augmentation devices. FFSs for highly augmented helicopters will be validated both in the unaugmented configuration (or failure state with the maximum permitted degradation in handling qualities) and the augmented configuration. Where various levels of handling qualities result from failure states, validation of the effect of the failure is necessary. For those performance and static handling qualities tests where the primary concern is control position in the unaugmented configuration, unaugmented data are not required if the design of the system precludes any effect on control position. In those instances where the unaugmented helicopter response is divergent and non-repeatable, it may not be feasible to meet the specified tolerances. Alternative requirements for testing will be mutually agreed upon by the sponsor and the NSPM on a case-by-case basis.

l. Some tests will not be required for helicopters using helicopter hardware in the simulator flight deck (e.g., ''helicopter modular controller''). These exceptions are noted in Table C2A of this attachment. However, in these cases, the sponsor must provide a statement that the helicopter hardware meets the appropriate manufacturer's specifications and the sponsor must have supporting information to that fact available for NSPM review.

m. For objective test purposes, ''Near maximum'' gross weight is a weight chosen by the sponsor or data provider that is not less than the basic operating weight (BOW) of the helicopter being simulated plus 80% of the difference between the maximum certificated gross weight (either takeoff weight or landing weight, as appropriate for the test) and the BOW. ''Light'' gross weight is a weight chosen by the sponsor or data provider that is not more than 120% of the BOW of the helicopter being simulated or as limited by the minimum practical operating weight of the test helicopter. ''Medium'' gross weight is a weight chosen by the sponsor or data provider that is within 10 percent of the average of the numerical values of the BOW and the maximum certificated gross weight. (Note: BOW is the empty weight of the aircraft plus the weight of the following: normal oil quantity; lavatory servicing fluid; potable water; required crewmembers and their baggage; and emergency equipment. (References: Advisory Circular 120–27, ''Aircraft Weight and Balance;'' and FAA–H–8083–1, ''Aircraft Weight and Balance Handbook.'').

End QPS Requirements

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
1. Performance								
1.a.	Engine Assessment							
1.a.1.	Start Operations							
1.a.1.a. ..	Engine start and acceleration (transient).	Light Off Time—±10% or ±1 sec., Torque—±5%, Rotor Speed—±3%, Fuel Flow—±10%, Gas Generator Speed—±5%, Power Turbine Speed—±5%, Gas Turbine Temp.—±30°C.	Ground with the Rotor Brake Used and Not Used, if applicable.	Record each engine start from the initiation of the start sequence to steady state idle and from steady state idle to operating RPM.	X	X	X	
1.a.1.b. ..	Steady State Idle and Operating RPM conditions.	Torque—±3%, Rotor Speed—±1.5%, Fuel Flow—±5%, Gas Generator Speed—±2%, Power Turbine Speed—±2%, Turbine Gas Temp.—±20°C.	Ground	Record both steady state idle and operating RPM conditions. May be a series of snapshot tests.	X	X	X	
1.a.2.	Power Turbine Speed Trim.	±10% of total change of power turbine speed, or ±0.5% change of rotor speed.	Ground	Record engine response to trim system actuation in both directions.	X	X	X	
1.a.3.	Engine and Rotor Speed Governing.	Torque—±5%, Rotor Speed—1.5%.	Climb and descent	Record results using a step input to the collective. May be conducted concurrently with climb and descent performance tests.	X	X	X	
1.b.	Surface Operations							

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
1.b.1.	Minimum Radius Turn	±3 ft. (0.9m) or 20% of helicopter turn radius.	Ground	If brakes are used, brake pedal position and brake system pressure must be matched to the helicopter flight test value.	X	X	X	
1.b.2.	Rate of Turn vs. Pedal Deflection, Brake Application, or Nosewheel Angle, as applicable.	±10% or ±2°/sec. Turn Rate	Ground Takeoff	If brakes are used, brake pedal position and brake system pressure must be matched to the helicopter flight test value.	X	X	X	
1.b.3.	Taxi	Pitch Angle—±1.5°, Torque—±3%, Longitudinal Control Position—±5%, Lateral Control Position—±5%, Directional Control Position ±5%, Collective Control Position—±5%.	Ground	Record results for control position and pitch attitude during ground taxi for a specific ground speed, wind speed and direction, and density altitude.	X	X	X	
1.b.4.	Brake Effectiveness	±10% of time and distance	Ground		X	X	X	
1.c.	Takeoff							
1.c.1.	All Engines	Airspeed—±3 kt, Altitude—±20 ft (6.1m), Torque—±3%, Rotor Speed—±1.5%, Vertical Velocity—±100 fpm (0.50m/sec) or 10%, Pitch Attitude—±1.5°, Bank Attitude—±2°, Heading—±2°, Longitudinal Control Position—±10%, Lateral Control Position—±10%, Directional Control Position—±10%, Collective Control Position—±10%..	Ground/Takeoff and Initial Segment of Climb.	Record results of takeoff flight path as appropriate to helicopter model simulated (running takeoff for Level B, takeoff from a hover for Level C and D). For Level B, the criteria apply only to those segments at airspeeds above effective translational lift. Results must be recorded from the initiation of the takeoff to at least 200 ft (61m) AGL.	X	X	X	
1.c.2.	One Engine Inoperative continued takeoff.	Airspeed—±3 kt, Altitude—±20 ft (6.1m), Torque—±3%, Rotor Speed—±1.5%,Vertical Velocity—±100 fpm (0.50m/sec) or 10%, Pitch Attitude—±1.5°, Bank Attitude—±2°, Heading—±2°, Longitudinal Control Position— ±10%, Lateral Control Position—±10%, Directional Control Position—±10%, Collective Control Position—±10%.	Ground/Takeoff; and Initial Segment of Climb.	Record takeoff flight path as appropriate to helicopter model simulated. Results must be recorded from the initiation of the takeoff to at least 200 ft (61m) AGL.	X	X	X	
1.c.3.	One Engine inoperative, rejected takeoff.	Airspeed ± 3 kt; Altitude ± 20 ft (6.1m), Torque ± 3%, Rotor Speed ± 1.5%, Pitch Attitude ± 1.5°, Roll angle ± 1.5°, Heading ± 2°, Longitudinal Control Position ± 10%, Lateral Control Position ± 10%, Directional Control Position ± 10%, Collective Control Position ± 10%, Distance: ± 7.5% or ± 30m (100ft).	Ground, Takeoff	Time history from the takeoff point to touchdown. Test conditions near limiting performance.		X	X	
1.d.	Hover							

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
	Performance	Torque—±3%, Pitch Attitude—±1.5°, Bank Attitude—±1.5°, Longitudinal Control Position—±5%, Lateral Control Position—±5%, Directional Control Position—±5%, Collective Control Position—±5%.	In Ground Effect (IGE); and Out of Ground Effect (OGE).	Record results for light and heavy gross weights. May be a series of snapshot tests.		X	X	
1.e.	Vertical Climb							
	Performance	Vertical Velocity—±100 fpm (0.50 m/sec) or ±10%, Directional Control Position—±5%, Collective Control Position—±5%.	From OGE Hover	Record results for light and heavy gross weights. May be a series of snapshot tests.		X	X	
1.f.	Level Flight							
	Performance and Trimmed Flight Control Positions.	Torque—±3%, Pitch Attitude—±1.5°, Sideslip Angle—±2°, Longitudinal Control Position—±5%, Lateral Control Position—±5%, Directional Control Position—±5%, Collective Control Position—±5%.	Cruise (Augmentation On and Off).	Record results for two gross weight and CG combinations with varying trim speeds throughout the airspeed envelope. May be a series of snapshot tests.	X	X	X	This test validates performance at speeds above maximum endurance airspeed.
1.g.	Climb							
	Performance and Trimmed Flight Control Positions.	Vertical Velocity—±100 fpm (6.1m/sec) or ±10%, Pitch Attitude—±1.5°, Sideslip Angle—±2°, Longitudinal Control Position—±5%, Lateral Control Position—±5%, Directional Control Position—±5%, Collective Control Position—±5%.	All engines operating; One engine inoperative; Augmentation System(s) On and Off.	Record results for two gross weight and CG combinations. The data presented must be for normal climb power conditions. May be a series of snapshot tests.	X	X	X	
1.h.	Descent							
1.h.1.	Descent Performance and Trimmed Flight Control Positions.	Torque—±3%, Pitch Attitude—±1.5°, Sideslip Angle—±2°, Longitudinal Control Position—±5%, Lateral Control Position—±5%, Directional Control Position—±5%, Collective Control Position—±5%.	At or near 1,000 fpm (5 m/sec) rate of descent (RoD) at normal approach speed. Augmentation System(s) On and Off.	Results must be recorded for two gross weight and CG combinations. May be a series of snapshot tests.	X	X	X	
1.h.2.	Autorotation Performance and Trimmed Flight Control Positions.	Pitch Attitude—±1.5°, Sideslip Angle—±2°, Longitudinal Control Position—±5%, Lateral Control Position—±5%, Directional Control Position—±5%, Collective Control Position—±5%, Vertical Velocity ±100 fpm or 10%, Rotor Speed ±1.5%.	Steady descents. Augmentation System(s) On and Off.	Record results for two gross weight conditions. Data must be recorded for normal operating RPM. (Rotor speed tolerance applies only if collective control position is full down.) Data must be recorded for speeds from 50 kts, ±5 kts through at least maximum glide distance airspeed. May be a series of snapshot tests.	X	X	X	
1.i.	Autorotation							

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
	Entry	Rotor Speed—±3%, Pitch Attitude ±2°, Roll Attitude—±3°, Yaw Attitude—±5°, Airspeed—±5 kts, Vertical Velocity—±200 fpm (1.00 m/sec) or 10%.	Cruise or Climb	Record results of a rapid throttle reduction to idle. If the cruise condition is selected, comparison must be made for the maximum range airspeed. If the climb condition is selected, comparison must be made for the maximum rate of climb airspeed at or near maximum continuous power.		X	X	
1.j.	Landing							
1.j.1.	All Engines	Airspeed—±3 kts., Altitude—±20 ft. (6.1 m), Torque—±3%, Rotor Speed—±1.5%, Pitch Attitude—±1.5°, Bank Attitude—±1.5°, Heading—±2°, Longitudinal Control Position—±10%, Lateral Control Position—±10%, Directional Control Position—±10%, Collective Control Position—±10%.	Approach	Record results of the approach and landing profile as appropriate to the helicopter model simulated (running landing for Level B, or approach to a hover for Level C and D). For Level B, the criteria apply only to those segments at airspeeds above effective translational lift.	X	X	X	
1.j.2.	One Engine Inoperative	Airspeed—±3 kts, Altitude—±20 ft (6.1 m), Torque—±3%, Rotor Speed—±1.5%, Pitch Attitude—±1.5°, Bank Attitude—±1.5°, Heading—±2°, Longitudinal Control Position—±10%, Lateral Control Position—±10%, Directional Control Position—±10%, Collective Control Position—±10%.	Approach	Record results for both Category A and Category B approaches and landing as appropriate to helicopter model simulated. For Level B, the criteria apply only to those segments at airspeeds above effective translational lift.	X	X	X	
1.j.3.	Balked Landing	Airspeed—±3 kts, Altitude—±20 ft (6.1 m), Torque—±3%, Rotor Speed—±1.5%, Pitch Attitude—±1.5°, Bank Attitude—±1.5°, Heading—±2°, Longitudinal Control Position—±10%, Lateral Control Position—±10%, Directional Control Position—±10%, Collective Control Position—±10%.	Approach	Record the results for the maneuver initiated from a stabilized approach at the landing decision point (LDP).	X	X	X	
1.j.4.	Autorotational Landing	Torque—±3%, Rotor Speed—±3%, Vertical Velocity—±100 fpm (0.50 m/sec) or 10%, Pitch Attitude—±2°, Bank Attitude—±2°, Heading—±5°, Longitudinal Control Position—±10%, Lateral Control Position—±10%, Directional Control Position—±10%, Collective Control Position—±10%.	Landing	Record the results of an autorotational deceleration and landing from a stabilized autorotational descent, to touch down.		X	X	
2. Handling Qualities								
2.a.	Control System Mechanical Characteristics							

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
	For simulators requiring Static or Dynamic tests at the controls (i.e., cyclic, collective, and pedal), special test fixtures will not be required during initial or upgrade evaluations if the sponsor's QTG/MQTG shows both test fixture results and the results of an alternative approach, such as computer plots produced concurrently showing satisfactory agreement. Repeat of the alternative method during the initial or upgrade evaluation would then satisfy this test requirement. For initial and upgrade evaluations, the control dynamic characteristics must be measured at and recorded directly from the flight deck controls, and must be accomplished in hover, climb, cruise, and autorotation.							Contact the NSPM for clarification of any issue regarding helicopters with reversible controls or where the required validation data is not attainable.
2.a.1.	Cyclic	Breakout—±0.25 lbs (0.112 daN) or 25%; Force—±1.0 lb (0.224 daN) or 10%.	Ground; Static conditions with the hydraulic system (if applicable) pressurized; supplemental hydraulic pressurization system may be used. Trim On and Off. Friction Off Augmentation (if applicable) On and Off.	Record results for an uninterrupted control sweep to the stops. (This test does not apply if aircraft hardware modular controllers are used.)	X	X	X	Flight Test Data for this test does not require the rotor to be engaged/turning. The phrase ''if applicable'' regarding stability augmentation systems means if an augmentation system is available and if this system may be operational on the ground under static conditions as described here.
2.a.2.	Collective/Pedals	Breakout—±0.5 lb (0.224 daN) or 25%; Force—±1.0 lb (0.224 daN) or 10%.	Ground; Static conditions with the hydraulic system (if applicable) pressurized; supplemental hydraulic pressurization system may be used. Trim On and Off. Friction Off. Augmentation (if applicable) On and Off.	Record results for an uninterrupted control sweep to the stops.	X	X	X	Flight Test Data for this test does not require the rotor to be engaged/turning. The phrase ''if applicable'' regarding stability augmentation system means if a stability augmentation system is available and if this system may be operational on the ground under static conditions as described here.''
2.a.3.	Brake Pedal Force vs. Position.	±5 lbs (2.224 daN) or 10%	Ground; Static conditions.	.....	X	X	X	
2.a.4.	Trim System Rate (all applicable systems).	Rate—±10%	Ground; Static conditions. Trim On, Friction Off.	The tolerance applies to the recorded value of the trim rate.	X	X	X	
2.a.5.	Control Dynamics (all axes).	±10% of time for first zero crossing and ±10 (N+1)% of period thereafter, ±10% of amplitude of first overshoot, 20% of amplitude of 2nd and subsequent overshoots greater than 5% of initial displacement, ±1 overshoot.	Hover/Cruise, Trim On, Friction Off.	Results must be recorded for a normal control displacement in both directions in each axis.		X	X	Typically, control displacement of 25% to 50% is necessary for proper excitation. Control Dynamics for irreversible control systems may be evaluated in a ground/static condition. Additional information on control dynamics is found later in this attachment. ''N'' is the sequential period of a full cycle of oscillation.

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
2.a.6.	Control System Freeplay	±2% control displacement, but not to exceed ±0.15 in.	Ground; Static conditions; with the hydraulic system (if applicable) pressurized; supplemental hydraulic pressurization system may be used.	Record and compare results for all controls.	X	X	X	Flight Test Data for this test does not require the rotor to be engaged/turning.
2.b.	Low Airspeed Handling Qualities							
2.b.1.	Trimmed Flight Control Positions.	Torque—±3%, Pitch Attitude—±1.5°, Bank Attitude—±2°, Longitudinal Control Position—±5%. Lateral Control Position—±5%, Directional Control Position—±5%, Collective Control Position—±5%.	Translational Flight IGE—Sideward, rearward, and forward flight. Augmentation On and Off.	Record results for several airspeed increments to the translational airspeed limits and for 45 kts forward airspeed. May be a series of snapshot tests.		X	X	
2.b.2.	Critical Azimuth	Torque—±3%, Pitch Attitude—±1.5°, Bank Attitude—±2°, Longitudinal Control Position—±5%, Lateral Control Position—±5%, Directional Control Position—±5%, Collective Control Position—±5%.	Stationary Hover. Augmentation On and Off.	Record results for three relative wind directions (including the most critical case) in the critical quadrant. May be a series of snapshot tests.		X	X	
2.b.3.	Control Response							
2.b.3.a. ..	Longitudinal	Pitch Rate—±10% or ±2°/sec, Pitch Attitude Change—±10% or 1.5°.	Hover. Augmentation On and Off.	Record results for a step control input. The Off-axis response must show correct trend for unaugmented cases.		X	X	This is a ''short time'' test conducted in a hover, in ground effect, without entering translational flight, to provide better visual reference.
2.b.3.b. ..	Lateral	Roll Rate—±10% or ±3°/sec. Roll Attitude Change—±10% or ±3°.	Hover Augmentation On and Off.	Record results for a step control input. The Off-axis response must show correct trend for unaugmented cases.		X	X	This is a ''short time'' test conducted in a hover, in ground effect, without entering translational flight, to provide better visual reference.
2.b.3.c. ..	Directional	Yaw Rate—±10% or ±2°/sec, Heading Change—±10% or ±2°.	Hover Augmentation On and Off.	Record results for a step control input. The Off-axis response must show correct trend for unaugmented cases.		X	X	This is a ''short time'' test conducted in a hover, in ground effect, without entering translational flight, to provide better visual reference.
2.b.3.d. ..	Vertical	Normal Acceleration—±0.1 g	Hover	Record results for a step control input. The Off-axis response must show correct trend for unaugmented cases.		X	X	
2.c.	Longitudinal Handling Qualities							

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
2.c.1.	Control Response	Pitch Rate—±10% or ±2°/sec, Pitch Attitude Change—±10% or ±1.5°.	Cruise Augmentation On and Off.	Results must be recorded for two cruise airspeeds to include minimum power required speed. Record data for a step control input. The Off-axis response must show correct trend for unaugmented cases.	X	X	X	
2.c.2.	Static Stability	Longitudinal Control Position: ±10% of change from trim or ±0.25 in (6.3 mm) or Longitudinal Control Force: ±0.5 lb (0.223 daN) or ±10%.	Cruise or Climb, Autorotation, Augmentation On and Off.	Record results for a minimum of two speeds on each side of the trim speed. May be a series of snapshot tests.	X	X	X	
2.c.3.	Dynamic Stability							
2.c.3.a. ..	Long Term Response	±10% of calculated period, ±10% of time to ½ or double amplitude, or ±0.02 of damping ratio. For non-periodic responses, the time history must be matched within ±10% pitch; and ±10% airspeed over a 20-sec period following release of the controls.	Cruise Augmentation On and Off.	For periodic responses, record results for three full cycles (6 overshoots after input completed) or that sufficient to determine time to ½ or double amplitude, whichever is less. For non-periodic responses, the test may be terminated prior to 20 sec if the test pilot determines that the results are becoming uncontrollably divergent.	X	X	X	The response may be unrepeatable throughout the stated time for certain helicopters. In these cases, the test should show at least that a divergence is identifiable. For example: displacing the cyclic for a given time normally excites this test or until a given pitch attitude is achieved and then return the cyclic to the original position.
2.c.3.b. ..	Short Term Response	±1.5° Pitch or ±2°/sec, Pitch Rate. ±0.1 g Normal Acceleration.	Cruise or Climb. Augmentation On and Off.	Record results for at least two airspeeds.	X	X	X	A control doublet inserted at the natural frequency of the aircraft normally excites this test.
2.c.4.	Maneuvering Stability	Longitudinal Control Position—10% of change from trim or ±0.25 in. (6.3 mm) or Longitudinal Control Forces—±0.5 lb. (0.223 daN) or ±10%.	Cruise or Climb. Augmentation On and Off.	Record results for at least two airspeeds at 30°-45° roll angle. The force may be shown as a cross plot for irreversible systems. May be a series of snapshot tests.	X	X	X	
2.d.	Lateral and Directional Handling Qualities							
2.d.1.	Control Response							
2.d.1.a. ..	Lateral	Roll Rate—±10% or ±3°/sec., Roll Attitude Change—±10% or ±3°.	Cruise Augmentation On and Off.	Record results for at least two airspeeds, including the speed at or near the minimum power required airspeed. Record results for a step control input. The Off-axis response must show correct trend for unaugmented cases.	X	X	X	

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
2.d.1.b. ..	Directional	Yaw Rate—±10% or ±2°/sec., Yaw Attitude Change—±10% or ±2°.	Cruise Augmentation On and Off.	Record data for at least two airspeeds, including the speed at or near the minimum power required airspeed. Record results for a step control input. The Off-axis response must show correct trend for unaugmented cases.	X	X	X	
2.d.2.	Directional Static Stability	Lateral Control Position—±10% of change from trim or ±0.25 in. (6.3 mm) or Lateral Control Force—±0.5 lb. (0.223 daN) or 10%, Roll Attitude—±1.5, Directional Control Position—±10% of change from trim or ±0.25 in. (6.3 mm) or Directional Control Force—±1 lb. (0.448 daN) or 10%., Longitudinal Control Position—±10% of change from trim or ±0.25 in. (6.3 mm), Vertical Velocity—±100 fpm (0.50m/sec) or 10%.	Cruise; or Climb (may use Descent instead of Climb if desired), Augmentation On and Off.	Record results for at least two sideslip angles on either side of the trim point. The force may be shown as a cross plot for irreversible systems. May be a series of snapshot tests.	X	X	X	This is a steady heading sideslip test.
2.d.3.	Dynamic Lateral and Directional Stability							
2.d.3.a. ..	Lateral-Directional Oscillations.	±0.5 sec. or ±10% of period, ±10% of time to ½ or double amplitude or ±0.02 of damping ratio, ±20% or ±1 sec of time difference between peaks of bank and sideslip. For non-periodic responses, the time history must be matched within ±10% yaw; ±10% roll angle, and ±10% airspeed, over a 20 sec period roll angle following release of the controls.	Cruise or Climb. Augmentation On/Off.	Record results for at least two airspeeds. The test must be initiated with a cyclic or a pedal doublet input. Record results for six full cycles (12 overshoots after input completed) or that sufficient to determine time to or double amplitude, whichever is less. For non-periodic response, the test may be terminated prior to 20 sec if the test pilot determines that the results are becoming uncontrollably divergent.	X	X	X	
2.d.3.b. ..	Spiral Stability	±2° or ±10% roll angle	Cruise or Climb. Augmentation On and Off.	Record the results of a release from pedal only or cyclic only turns for 20 sec. Results must be recorded from turns in both directions. Terminate check at zero roll angle or when the test pilot determines that the attitude is becoming uncontrollably divergent.	X	X	X	

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
2.d.3.c. ..	Adverse/Proverse Yaw	Correct Trend, ±2° transient sideslip angle.	Cruise or Climb. Augmentation On and Off.	Record the time history of initial entry into cyclic only turns, using only a moderate rate for cyclic input. Results must be recorded for turns in both directions.	X	X	X	
3. **Motion System**								
3.a.	Frequency Response							
		Based on Simulator Capability ...	N/A	Required as part of MQTG but not required as part of continuing qualification evaluations. The test must demonstrate frequency response of the motion system as specified by the applicant for flight simulator qualification.	X	X	X	
3.b.	Leg Balance							
	Leg Balance	Based on Simulator Capability ...	N/A	Required as part of MQTG but not required as part of continuing evaluations. The test must demonstrate motion system leg balance as specified by the applicant for flight simulator qualification.	X	X	X	
3.c.	Turn Around							
	Turn Around	Based on Simulator Capability ...	N/A	Required as part of MQTG but not required as part of continuing qualification evaluations. The test must demonstrate a smooth turn-around (shift to opposite direction of movement) of the motion system as specified by the applicant for flight simulator qualification.	X	X	X	
3.d	Motion System Repeatability							

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
		With the same input signal, the test results must be repeatable to within ±0.05g actual platform linear acceleration in each axis.	Accomplished in both the ''ground'' mode and in the ''flight'' mode of the motion system operation.	Required as part of the MQTG and at each continuing qualification evaluation. The test is accomplished by injecting a motion signal to generate movement of the platform. The input must be such that the rotational accelerations, rotational rates, and linear accelerations are inserted before the transfer from helicopter center of gravity to the pilot reference point with a minimum amplitude of 5°/sec/sec, 10°/sec and 0.3g, respectively.	X	X	X	See Paragraph 5.c. in this attachment for additional information. Note: if there is no difference in the model for ''ground'' and ''flight'' operation of the motion system, this should be described in an SOC and will not require tests in both modes.
3.e.	Motion Cueing Performance Signature							
				Required as part of MQTG but not required as part of continuing qualification evaluations. These tests must be run with the motion buffet mode disabled.				See paragraph 5.d., of this attachment, Motion cueing performance signature.
3.e.1.	Takeoff (all engines)	As specified by the sponsor for flight simulator qualification.	Ground	Pitch attitude due to initial climb should dominate over cab tilt due to longitudinal acceleration.	X	X	X	Associated to test number 1.c.1.
3.e.2.	Hover performance (IGE and OGE).	As specified by the sponsor for flight simulator qualification.	Ground	.....		X	X	Associated to test number 1.d.
3.e.3.	Autorotation (entry)	As specified by the sponsor for flight simulator qualification.	Flight	.....		X	X	Associated to test number 1.i.
3.e.4.	Landing (all engines)	As specified by the sponsor for flight simulator qualification.	Flight	.....	X	X	X	Associated to test number 1.j.1.
3.e.5.	Autorotation (landing)	As specified by the sponsor for flight simulator qualification.	Flight	.....		X	X	Associated to test number 1.j.4.
3.e.6.	Control Response							
3.e.6.a. ..	Longitudinal	As specified by the sponsor for flight simulator qualification.	Flight	.....	X	X	X	Associated to test number 2.c.1.
3.e.6.b. ..	Lateral	As specified by the sponsor for flight simulator qualification.	Ground	.....	X	X	X	Associated to test number 2.d.1.a.
3.e.6.c. ..	Directional	As specified by the sponsor for flight simulator qualification.	.....	.....	X	X	X	Associated to test number 2.d.1.c.
3.f.	Characteristic Motion Cues—For all of the following tests, the simulator test results must exhibit the overall appearance and trends of the helicopter data, with at least three (3) of the predominant frequency ''spikes'' being present within ±2 Hz.							Characteristic motion cues may be separate from the ''main'' motion system.
3.f.1.	Thrust effect with brakes set.	.....	Ground	The test must be conducted within 5% of the maximum possible thrust with brakes set.			X	

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
3.f.2.	Buffet with landing gear extended.	.....	Flight	The test must be conducted at an airspeed below landing gear limiting airspeed.			X	The airspeed selected for this test should be within the range where the operator typically conducts operations with the landing gear extended.
3.f.3.	Buffet at approach-to-stall	.....	Flight	The test must be conducted for approach to stall. Post stall characteristics are not required.			X	
3.f.4.	Buffet at high airspeeds ...	.....	Flight	.....			X	
3.f.5.	In-flight vibrations	.....	Flight (clean configuration).	.....			X	
3.f.6.	Thrust effect with brakes set.	.....	Ground	The test must be conducted within 5% of the maximum possible thrust with brakes set.			X	
4. Visual System								
4.a.	Visual System Response Time: (Choose either test 4.a.1. or 4.a.2. to satisfy test 4.a., Visual System Response Time Test. This test is also sufficient for motion system response timing and flight deck instrument response timing.)							
4.a.1.	Latency							
		150 ms (or less) after helicopter response.	Takeoff, climb, and descent.	One test is required in each axis (pitch, roll and yaw) for each of the three conditions (take-off, cruise, and approach or landing).	X			
		100 ms (or less) after helicopter response.	Climb, cruise, descent, and hover.	One test is required in each axis (pitch, roll and yaw) for each of the three conditions (take-off, cruise, and approach or landing).		X	X	
4.a.2.	Transport Delay							
								If Transport Delay is the chosen method to demonstrate relative responses, the sponsor and the NSPM will use the latency values to ensure proper simulator response when reviewing those existing tests where latency can be identified (e.g., short period, roll response, rudder response).
		150 ms (or less) after controller movement.	N/A	A separate test is required in each axis (pitch, roll, and yaw).	X			

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
		100 ms (or less) after controller movement.	N/A	A separate test is required in each axis (pitch, roll, and yaw).		X	X	
4.b.	Field of View							
4.b.1.	Continuous field of view ...	The simulator must provide a continuous field of view of at least 75° horizontally and 30° vertically per pilot seat or the number of degrees necessary to meet the visual ground segment requirement, whichever is greater. Both pilot seat visual systems must be operable simultaneously. Wide-angle systems providing cross-flight deck viewing (for both pilots simultaneously) must provide a minimum field of view of at least 146° horizontally and 36° vertically. Any geometric error between the Image Generator eye point and the pilot eye point must be 8° or less.	N/A	An SOC is required and must explain the geometry of the installation. Additional horizontal field of view capability may be added at the sponsor's discretion provided the minimum field of view is retained.	X			Horizontal field of view is centered on the zero degree azimuth line relative to the aircraft fuselage. Field of view may be measured using a visual test pattern filling the entire visual scene (all channels) with a matrix of black and white 5° squares.
4.b.2.	Continuous field of view ...	The simulator must provide a continuous field of view of at least 146° horizontally and 36° vertically or the number of degrees necessary to meet the visual ground segment requirement, whichever is greater. The minimum horizontal field of view coverage must be plus and minus one-half (½) of the minimum continuous field of view requirement, centered on the zero degree azimuth line relative to the aircraft fuselage. Any geometric error between the Image Generator eye point and the pilot eye point must be 8° or less.	N/A	An SOC is required and must explain the geometry of the installation. Horizontal field of view of at least 146° (including not less than 73° measured either side of the center of the design eye point). Additional horizontal field of view capability may be added at the sponsor's discretion provided the minimum field of view is retained. Vertical field of view of at least 36° measured from the pilot's and co-pilot's eye point.		X		Horizontal field of view is centered on the zero degree azimuth line relative to the aircraft fuselage. Field of view may be measured using a visual test pattern filling the entire visual scene (all channels) with a matrix of black and white 5° squares.

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
4.b.3.	Continuous field of view ...	Continuous field of view of at least 176° horizontal and 56° vertical field of view for each pilot simultaneously. Any geometric error between the Image Generator eye point and the pilot eye point must be 8° or less.	N/A	An SOC is required and must explain the geometry of the installation. Horizontal field of view is centered on the zero degree azimuth line relative to the aircraft fuselage. Horizontal field of view must be at least 176° (including not less than 88° either side of the center of the design eye point). Additional horizontal field of view capability may be added at the sponsor's discretion provided the minimum field of view is retained. Vertical field of view must not be less than a total of 56° measured from the pilot's and co-pilot's eye point.			X	The horizontal field of view is traditionally described as a 180° field of view. However, the field of view is technically no less than 176°. Field of view may be measured using a visual test pattern filling the entire visual scene (all channels) with a matrix of black and white 5° squares.
4.c.	Surface contrast ratio	Not less than 5:1	N/A	The ratio is calculated by dividing the brightness level of the center, bright square (providing at least 2 foot-lamberts or 7 cd/m2) by the brightness level of any adjacent dark square.			X	Measurements may be made using a 1° spot photometer and a raster drawn test pattern filling the entire visual scene (all channels) with a test pattern of black and white squares, 5 per square, with a white square in the center of each channel. During contrast ratio testing, simulator aft-cab and flight deck ambient light levels should be zero.
4.d.	Highlight brightness	Not less than six (6) foot-lamberts (20 cd/m^2).	N/A	Measure the brightness of the center, white square while superimposing a highlight on that white square. The use of calligraphic capabilities to enhance the raster brightness is acceptable; however, measuring light points is not acceptable.			X	Measurements may be made using a 1° spot photometer and a raster drawn test pattern filling the entire visual scene (all channels) with a test pattern of black and white squares, 5 per square, with a white square in the center of each channel.

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
4.e.	Surface resolution	Not greater than two (2) arc minutes.	N/A	An SOC is required and must include the appropriate calculations and an explanation of those calculations.		X	X	The eye will subtend two (2) arc minutes when positioned on a 3° glide slope, 6,876 ft slant range from the centrally located threshold of a black runway surface painted with white threshold bars that are 16 ft wide with 4-foot gaps between the bars. This requirement is the same as 4 arc minutes per optical line pair.
4.f.	Light point size	Not greater than five (5) arc-minutes.	N/A	An SOC is required and must include the relevant calculations and an explanation of those calculations.		X	X	Light point size may be measured using a test pattern consisting of a centrally located single row of light points reduced in length until modulation is just discernible in each visual channel. A row of 48 lights will form a 4° angle or less.
4.g.	Light point contrast ratio ..	.....	.....	.....				A 1° spot photometer may be used to measure a square of at least 1° filled with light points (where light point modulation is just discernible) and compare the results to the measured adjacent background. During contrast ratio testing, simulator aft-cab and flight deck ambient light levels should be zero.
4.g.1.	.....	Not less than 10:1	N/A	An SOC is required and must include the relevant calculations.	X			
4.g.2.	.....	Not less than 25:1	N/A	An SOC is required and must include the relevant calculations.		X	X	
4.h.	Visual ground segment							

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
		The visible segment in the simulator must be within 20% of the segment computed to be visible from the helicopter flight deck. The tolerance(s) may be applied at either or both ends of the displayed segment. However, lights and ground objects computed to be visible from the helicopter flight deck at the near end of the visible segment must be visible in the simulator.	Landing configuration, trimmed for appropriate airspeed, at 100 ft (30m) above the touchdown zone, on glide slope with an RVR value set at 1,200 ft (350m).	The QTG must contain appropriate calculations and a drawing showing the data used to establish the helicopter location and the segment of the ground that is visible considering design eyepoint, the helicopter attitude, flight deck cut-off angle, and a visibility of 1200 ft (350 m) RVR. Simulator performance must be measured against the QTG calculations. The data submitted must include at least the following: (1) Static helicopter dimensions as follows: (i) Horizontal and vertical distance from main landing gear (MLG) to glideslope reception antenna. (ii) Horizontal and vertical distance from MLG to pilot's eyepoint. (iii) Static flight deck cutoff angle. (2) Approach data as follows: (i) Identification of runway. (ii) Horizontal distance from runway threshold to glideslope intercept with runway. (iii) Glideslope angle. (iv) Helicopter pitch angle on approach. (3) Helicopter data for manual testing: (i) Gross weight. (ii) Helicopter configuration. (iii) Approach airspeed. If non-homogenous fog is used to obscure visibility, the vertical variation in horizontal visibility must be described and be included in the slant range visibility calculation used in the computations.	X	X	X	Pre-position for this test is encouraged, and may be achieved via manual or autopilot control to the desired position.

5. Sound System

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
	The sponsor will not be required to repeat the helicopter tests (i.e., tests 5.a.1. through 5.a.8. (or 5.b.1. through 5.b.9.) and 5.c., as appropriate) during continuing qualification evaluations if frequency response and background noise test results are within tolerance when compared to the initial qualification evaluation results, and the sponsor shows that no software changes have occurred that will affect the helicopter test results. If the frequency response test method is chosen and fails, the sponsor may elect to fix the frequency response problem and repeat the test or the sponsor may elect to repeat the helicopter tests. If the helicopter tests are repeated during continuing qualification evaluations, the results may be compared against initial qualification evaluation results or helicopter master data							
5.a.	Basic requirements							
5.a.1.	Ready for engine start	± 5 dB per ⅓ octave band	Ground	Normal condition prior to engine start. The APU should be on if appropriate.			X	
5.a.2.	All engines at idle; rotor not turning (if applicable) and rotor turning.	± 5 dB per ⅓ octave band	Ground	Normal condition prior to lift-off.			X	
5.a.3.	Hover	±5 dB per ⅓ octave band	Hover	.....			X	
5.a.4.	Climb	± 5 dB per ⅓ octave band	En-route climb	Medium altitude			X	
5.a.5.	Cruise	± 5 dB per ⅓ octave band	Cruise	Normal cruise configuration.			X	
5.a.6.	Final approach	± 5 dB per ⅓ octave band	Landing	Constant airspeed, gear down.			X	
5.b.	Special cases							
		± 5 dB per ⅓ octave band	As appropriate	.....			X	These special cases are identified as particularly significant during critical phases of flight and ground operations for a specific helicopter type or model.
5.c.	Background noise							
		±3 dB per ⅓ octave band	As appropriate	Results of the background noise at initial qualification must be included in the MQTG. Measurements must be made with the simulation running, the sound muted, and a ''dead'' flight deck.			X	The simulated sound will be evaluated to ensure that the background noise does not interfere with training, testing, or checking.
5.d.	Frequency response							

TABLE C2A.—FULL FLIGHT SIMULATOR (FFS) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>>
Test		Tolerance(s)	Flight condition	Test details	Simulator level			Notes
Number	Title				B	C	D	
		±5 dB on three (3) consecutive bands when compared to initial evaluation; and ± 2 dB when comparing the average of the absolute differences between initial and continuing qualification evaluation.	.....	Applicable only to Continuing Qualification Evaluations. If frequency response plots are provided for each channel at the initial evaluation, these plots may be repeated at the continuing qualification evaluation with the following tolerances applied:. (a) The continuing qualification ⅓ octave band amplitudes should not exceed ± 5 dB for three consecutive bands when compared to initial results. (b) The average of the sum of the absolute differences between initial and continuing qualification results must not exceed 2 dB (refer to table C2C in Appendix C).			X	Measurements are compared to those taken during initial qualification evaluation.

Begin Information

3. General

a. If relevant winds are present in the objective data, the wind vector should be clearly noted as part of the data presentation, expressed in conventional terminology, and related to the runway being used for test near the ground.

b. The reader is encouraged to review the Airplane Flight Simulator Evaluation Handbook, Volumes I and II, published by the Royal Aeronautical Society, London, UK, and FAA Advisory Circulars (AC) 25–7, as may be amended, Flight Test Guide for Certification of Transport Category Airplanes, and (AC) 23–8, as may be amended, Flight Test Guide for Certification of Part 23 Airplanes, for references and examples regarding flight testing requirements and techniques.

4. Control Dynamics

a. General. The characteristics of a helicopter flight control system have a major effect on the handling qualities. A significant consideration in pilot acceptability of a helicopter is the ''feel'' provided through the flight controls. Considerable effort is expended on helicopter feel system design so that pilots will be comfortable and will consider the helicopter desirable to fly. In order for an FFS to be representative, it should ''feel'' like the helicopter being simulated. Compliance with this requirement is determined by comparing a recording of the control feel dynamics of the FFS to actual helicopter measurements in the takeoff, cruise and landing configurations.

(1) Recordings such as free response to an impulse or step function are classically used to estimate the dynamic properties of electromechanical systems. In any case, it is only possible to estimate the dynamic properties as a result of only being able to estimate true inputs and responses. Therefore, it is imperative that the best possible data be collected since close matching of the FFS control loading system to the helicopter system is essential. The required dynamic control tests are described in Table C2A of this attachment.

(2) For initial and upgrade evaluations, the QPS requires that control dynamics characteristics be measured and recorded directly from the flight controls (Handling Qualities—Table C2A). This procedure is usually accomplished by measuring the free response of the controls using a step or impulse input to excite the system. The procedure should be accomplished in the takeoff, cruise and landing flight conditions and configurations.

(3) For helicopters with irreversible control systems, measurements may be obtained on the ground if proper pilot-static inputs are provided to represent airspeeds typical of those encountered in flight. Likewise, it may be shown that for some helicopters, hover, climb, cruise, and autorotation have like effects. Thus, one may suffice for another. If either or both considerations apply, engineering validation or helicopter manufacturer rationale should be submitted as justification for ground tests or for eliminating a configuration. For FFSs requiring static and dynamic tests at the controls, special test fixtures will not be required during initial and upgrade evaluations if the QTG shows both test fixture results and the results of an alternate approach (e.g., computer plots that were produced concurrently and show satisfactory agreement). Repeat of the alternate method during the initial evaluation would satisfy this test requirement.

b. Control Dynamics Evaluations. The dynamic properties of control systems are often stated in terms of frequency, damping, and a number of other classical measurements. In order to establish a consistent means of validating test results for FFS control loading, criteria are needed that will clearly define the measurement interpretation and the applied tolerances. Criteria are needed for underdamped, critically damped and overdamped systems. In the case of an underdamped system with very light damping, the system may be quantified in terms of frequency and damping. In critically damped or overdamped systems, the frequency and damping are not readily measured from a response time history. Therefore, the following suggested measurements may be used:

(1) For Levels C and D simulators. Tests to verify that control feel dynamics represent the helicopter should show that the dynamic damping cycles (free response of the controls) match those of the helicopter within specified tolerances. The NSPM recognizes that several different testing

methods may be used to verify the control feel dynamic response. The NSPM will consider the merits of testing methods based on reliability and consistency. One acceptable method of evaluating the response and the tolerance to be applied is described below for the underdamped and critically damped cases. A sponsor using this method to comply with the QPS requirements should perform the tests as follows:

(a) Underdamped Response. Two measurements are required for the period, the time to first zero crossing (in case a rate limit is present) and the subsequent frequency of oscillation. It is necessary to measure cycles on an individual basis in case there are non-uniform periods in the response. Each period will be independently compared to the respective period of the helicopter control system and, consequently, will enjoy the full tolerance specified for that period. The damping tolerance will be applied to overshoots on an individual basis. Care should be taken when applying the tolerance to small overshoots since the significance of such overshoots becomes questionable. Only those overshoots larger than 5 percent of the total initial displacement should be considered significant. The residual band, labeled $T(A_d)$ on Figure C2A is ±5 percent of the initial displacement amplitude A_d from the steady state value of the oscillation. Only oscillations outside the residual band are considered significant. When comparing FFS data to helicopter data, the process should begin by overlaying or aligning the FFS and airplane steady state values and then comparing amplitudes of oscillation peaks, the time of the first zero crossing, and individual periods of oscillation. The FFS should show the same number of significant overshoots to within one when compared against the helicopter airplane data. The procedure for evaluating the response is illustrated in Figure C2A.

(b) Critically damped and Overdamped Response. Due to the nature of critically damped and overdamped responses (no overshoots), the time to reach 90 percent of the steady state (neutral point) value should be the same as the helicopter within ±10 percent. The simulator response must be critically damped also. Figure C2B illustrates the procedure.

(c) Special considerations. Control systems that exhibit characteristics other than classical overdamped or underdamped responses should meet specified tolerances. In addition, special consideration should be given to ensure that significant trends are maintained.

(2) Tolerances.

(a) The following summarizes the tolerances, ''T'' for underdamped systems, and ''n'' is the sequential period of a full cycle of oscillation. See Figure C2A of this attachment for an illustration of the referenced measurements.

$T(P_0)$	±10% of P_0.
$T(P_1)$	±20% of P_1.
$T(P_2)$	±30% of P_2.
$T(P_n)$	±10(n+1)% of P_n.
$T(A_n)$	±10% of A_1.
$T(A_d)$	±5% of A_d = residual band.
Significant overshoots.	First overshoot and ±1 subsequent overshoots.

(b) The following tolerance applies to critically damped and overdamped systems only. See Figure C2B for an illustration of the reference measurements:

$T(P_0)$	±10% of P_0.

End Information

Begin QPS Requirement

c. Alternative method for control dynamics evaluation.

(1) An alternative means for validating control dynamics for aircraft with hydraulically powered flight controls and artificial feel systems is by the measurement of control force and rate of movement. For each axis of pitch, roll, and yaw, the control must be forced to its maximum extreme position for the following distinct rates. These tests are conducted under normal flight and ground conditions.

(a) Static test—Slowly move the control so that a full sweep is achieved within 95–105 seconds. A full sweep is defined as movement of the controller from neutral to the stop, usually aft or right stop, then to the opposite stop, then to the neutral position.

(b) Slow dynamic test—Achieve a full sweep within 8–12 seconds.

(c) Fast dynamic test—Achieve a full sweep in within 3–5 seconds.

Note: Dynamic sweeps may be limited to forces not exceeding 100 lbs. (44.5 daN).

(d) Tolerances.

(i) Static test—see Table C2A, Full Flight Simulator (FFS) Objective Tests, Items 2.a.1., 2.a.2., and 2.a.3.

(ii) Dynamic test ±2 lbs (0.9 daN) or ±10% on dynamic increment above static test.

End QPS Requirement

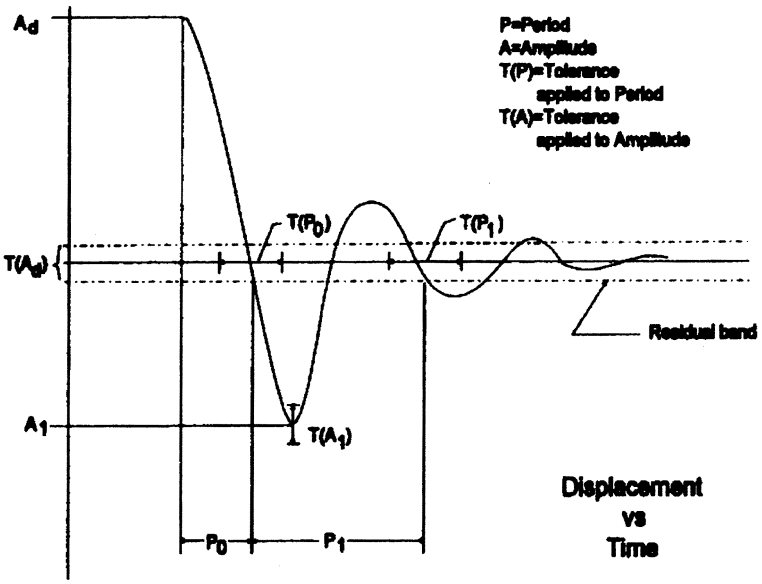
Begin Information

d. The FAA is open to alternative means that are justified and appropriate to the application. For example, the method described here may not apply to all manufacturers' systems and certainly not to aircraft with reversible control systems. Each case is considered on its own merit on an ad hoc basis. If the FAA finds that alternative methods do not result in satisfactory performance, more conventionally accepted methods will have to be used.

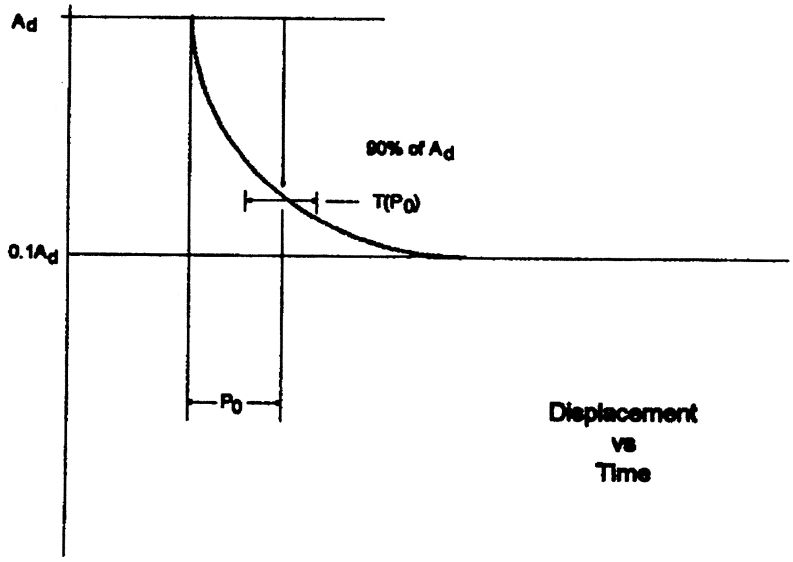
BILLING CODE 4910–13–P

End Information

Attachment 2 to Appendix C to Part 60—
Figure C2A. Under-Damped Step Response



Attachment 2 to Appendix C to Part 60—
Figure C2B. Critically-Damped Step Response



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End Information

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5. [Reserved]

Begin Information

6. Motion System

a. General.

(1) Pilots use continuous information signals to regulate the state of the helicopter. In concert with the instruments and outside-world visual information, whole-body motion feedback is essential in assisting the pilot to control the helicopter dynamics, particularly in the presence of external disturbances. The motion system should meet basic objective performance criteria, and be subjectively tuned at the pilot's seat position to represent the linear and angular accelerations of the helicopter during a prescribed minimum set of maneuvers and conditions. The response of the motion cueing system should be repeatable.

(2) The Motion System tests in Section 3 of Table C2A are intended to qualify the FFS motion cueing system from a mechanical performance standpoint. Additionally, the list of motion effects provides a representative sample of dynamic conditions that should be present in the flight simulator. An additional list of representative, training-critical maneuvers, selected from Section 1, (Performance tests) and Section 2, (Handling Qualities tests) in Table C2A, that should be recorded during initial qualification (but without tolerance) to indicate the flight simulator motion cueing performance signature have been identified (reference Section 3.e). These tests are intended to help improve the overall standard of FFS motion cueing.

b. Motion System Checks. The intent of test 3a, Frequency Response, test 3b, Leg Balance, and test 3c, Turn-Around Check, as described in the Table of Objective Tests, is to demonstrate the performance of the motion system hardware, and to check the integrity of the motion set-up with regard to calibration and wear. These tests are independent of the motion cueing software and should be considered robotic tests.

c. Motion System Repeatability. The intent of this test is to ensure that the motion system software and motion system hardware have not degraded or changed over time. This diagnostic test should be completed during continuing qualification checks in lieu of the robotic tests. This will allow an improved ability to determine changes in the software or determine degradation in the hardware. The following information delineates the methodology that should be used for this test.

(1) Input: The inputs should be such that rotational accelerations, rotational rates, and linear accelerations are inserted before the transfer from helicopter center of gravity to pilot reference point with a minimum amplitude of 5 deg/sec/sec, 10 deg/sec and 0.3 g, respectively, to provide adequate analysis of the output.

(2) Recommended output:

(a) Actual platform linear accelerations; the output will comprise accelerations due to both the linear and rotational motion acceleration;

(b) Motion actuators position.

d. Motion Cueing Performance Signature.

(1) Background. The intent of this test is to provide quantitative time history records of motion system response to a selected set of automated QTG maneuvers during initial qualification. It is not intended to be a comparison of the motion platform accelerations against the flight test recorded accelerations (*i.e.*, not to be compared against helicopter cueing). If there is a modification to the initially qualified motion software or motion hardware (*e.g.*, motion washout filter, simulator payload change greater than 10%) then a new baseline may need to be established.

(2) Test Selection. The conditions identified in Section 3.e. in Table C2A are those maneuvers where motion cueing is the most discernible. They are general tests applicable to all types of helicopters and should be completed for motion cueing performance signature at any time acceptable to the NSPM prior to or during the initial qualification evaluation, and the results included in the MQTG.

(3) Priority. Motion system should be designed with the intent of placing greater importance on those maneuvers that directly influence pilot perception and control of the helicopter motions. For the maneuvers identified in section 3.e. in Table C2A, the flight simulator motion cueing system should have a high tilt co-ordination gain, high rotational gain, and high correlation with respect to the helicopter simulation model.

(4) Data Recording. The minimum list of parameters provided should allow for the determination of the flight simulator's motion cueing performance signature for the initial qualification evaluation. The following parameters are recommended as being acceptable to perform such a function:

(a) Flight model acceleration and rotational rate commands at the pilot reference point;

(b) Motion actuators position;

(c) Actual platform position;

(d) Actual platform acceleration at pilot reference point.

e. Motion Vibrations.

(1) Presentation of results. The characteristic motion vibrations may be used to verify that the flight simulator can reproduce the frequency content of the helicopter when flown in specific conditions. The test results should be presented as a Power Spectral Density (PSD) plot with frequencies on the horizontal axis and amplitude on the vertical axis. The helicopter data and flight simulator data should be presented in the same format with the same scaling. The algorithms used for generating the flight simulator data should be the same as those used for the helicopter data. If they are not the same then the algorithms used for the flight simulator data should be proven to be sufficiently comparable. As a minimum the results along the dominant axes should be presented and a rationale for not presenting the other axes should be provided.

(2) Interpretation of results. The overall trend of the PSD plot should be considered while focusing on the dominant frequencies. Less emphasis should be placed on the differences at the high frequency and low amplitude portions of the PSD plot. During the analysis, certain structural components of the flight simulator have resonant frequencies that are filtered and may not appear in the PSD plot. If filtering is required, the notch filter bandwidth should be limited to 1 Hz to ensure that the buffet feel is not adversely affected. In addition, a rationale should be provided to explain that the characteristic motion vibration is not being adversely affected by the filtering. The amplitude should match helicopter data as described below. However, if the PSD plot was altered for subjective reasons, a rationale should be provided to justify the change. If the plot is on a logarithmic scale it may be difficult to interpret the amplitude of the buffet in terms of acceleration. For example, a 1×10^{-3} grams^2/Hz would describe a heavy buffet and may be seen in the deep stall regime. Alternatively, a 1×10^{-6} grams^2/Hz buffet is almost imperceptable; but may represent a flap buffet at low speed. The previous two examples differ in magnitude by 1000. On a PSD plot this represents three decades (one decade is a change in order of magnitude of 10; and two decades is a change in order of magnitude of 100).

f. Table C2B, Motion System Recommendations for Level C and Level D Helicopter Simulators, contains a description of the parameters that should be present in a ZFT level simulator motion system to provide adequate on-set motion cues to helicopter pilots. The information provided covers the six axes of motion (pitch, roll, yaw, vertical, lateral, and longitudinal) and addresses displacement, velocity, and acceleration. Also included is information about the parameters for initial rotational and linear acceleration. The parameters listed in this table apply only to ZFT level simulators, and are presented here as recommended targets for motion system capability. They are not requirements.

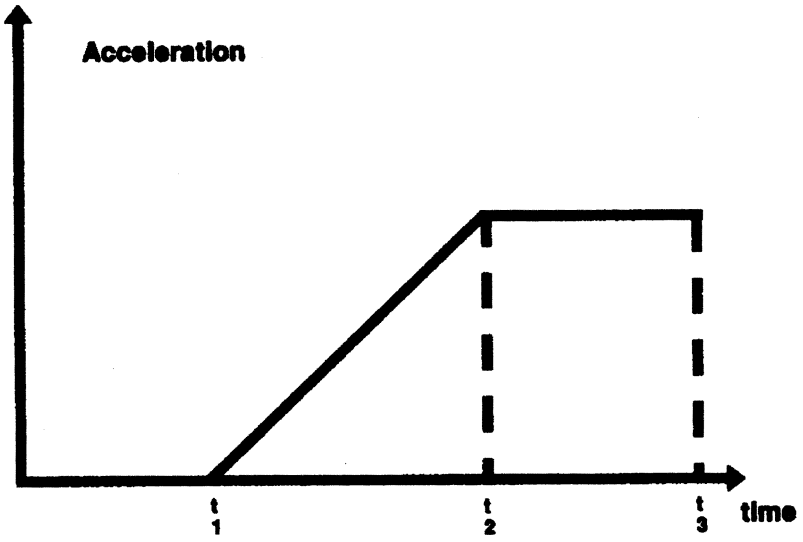
TABLE C2B.—MOTION SYSTEM RECOMMENDATIONS FOR LEVEL C AND LEVEL D HELICOPTER SIMULATORS

a.	Motion System Envelope	
a.1.	Pitch	
a.1.a.	Displacement	±25°.
a.1.b.	Velocity	±20°/sec.
a.1.c.	Acceleration	±100°/sec^2.
a.2.	Roll	
a.2.a.	Displacement	±25°.
a.2.b.	Velocity	±20°/sec.
a.2.c.	Acceleration	±100°/sec^2.
a.3.	Yaw	
a.3.a.	Displacement	±25°.
a.3.b.	Velocity -	±20°/sec.
a.3.c.	Acceleration	±100°/sec^2.
a.4.	Vertical	
a.4.a.	Displacement	±34 in.

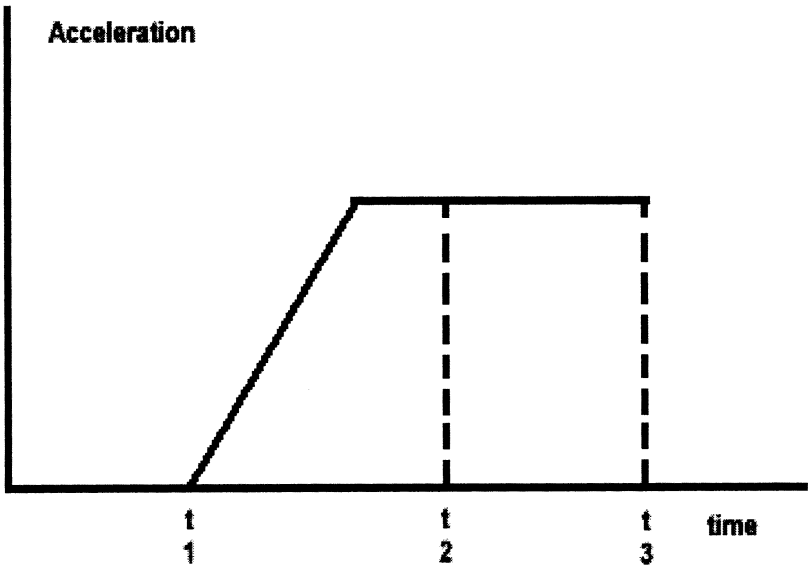
TABLE C2B.—MOTION SYSTEM RECOMMENDATIONS FOR LEVEL C AND LEVEL D HELICOPTER SIMULATORS—Continued

a.4.b. ...	Velocity	±24 in.
a.4.c. ...	Acceleration	±0.8 g.
a.5.	Lateral	
a.5.a. ...	Displacement	±45 in.
a.5.b. ...	Velocity	±28 in/sec.
a.5.c. ...	Acceleration	±0.6 g.
a.6.	Longitudinal	
a.6.a. ...	Displacement	±34 in.
a.6.b. ...	Velocity	±28 in/sec.
a.6.c. ...	Acceleration	±0.6 g.
a.7.	Initial Rotational Acceleration Ratio	All axes 300°/ sec²/sec.
a.8.	Initial Linear Acceleration Ratio	
a.8.a. ...	Vertical	±6g/sec.
a.8.b. ...	Lateral	±3g/sec.
a.8.c. ...	Longitudinal	±3g/sec.

Attachment 2 to Appendix C to Part 60—
Figure C2C. Acceleration Test Signals



Attachment 2 to Appendix C to Part 60—
Figure C2D. Test Signal Characteristics



BILLING CODE 4910–13–C

Note: Motion system baseline performance repeatability tests should be repeated if the simulator weight changes for any reason (i.e., visual change or structural change). The new results should be used for future comparison.

7. Sound System

a. General. The total sound environment in the helicopter is very complex, and changes with atmospheric conditions, helicopter configuration, airspeed, altitude, and power settings. Flight deck sounds are an important component of the flight deck operational environment and provide valuable information to the flight crew. These aural cues can either assist the crew (as an indication of an abnormal situation), or hinder the crew (as a distraction or nuisance). For effective training, the flight simulator should provide flight deck sounds that are perceptible to the pilot during normal and abnormal operations, and that are comparable to those of the helicopter. The flight simulator operator should carefully evaluate background noises in the location where the device will be installed. To demonstrate compliance with the sound requirements, the objective or validation tests in this attachment were selected to provide a representative sample of normal static conditions typically experienced by a pilot.

b. Alternate propulsion. For FFS with multiple propulsion configurations, any condition listed in Table C2A in this attachment should be presented for evaluation as part of the QTG if identified by the helicopter manufacturer or other data supplier as significantly different due to a change in propulsion system (engine or propeller).

c. Data and Data Collection System.

(1) Information provided to the flight simulator manufacturer should be presented in the format suggested by the ''International Air Transport Association (IATA) Flight Simulator Design and Performance Data Requirements,'' as amended. This

information should contain calibration and frequency response data.

(2) The system used to perform the tests listed in Table C2A should comply with the following standards:

(a) The specifications for octave, half octave, and third octave band filter sets may be found in American National Standards Institute (ANSI) S1.11–1986.

(b) Measurement microphones should be type WS2 or better, as described in International Electrotechnical Commission (IEC) 1094–4–1995.

(3) Headsets. If headsets are used during normal operation of the helicopter they should also be used during the flight simulator evaluation.

(4) Playback equipment. Playback equipment and recordings of the QTG conditions should be provided during initial evaluations.

(5) Background noise.

(a) Background noise is the noise in the flight simulator that is not associated with the helicopter, but is caused by the flight simulator's cooling and hydraulic systems and extraneous noise from other locations in the building. Background noise can seriously impact the correct simulation of helicopter sounds, and should be kept below the helicopter sounds. In some cases, the sound level of the simulation can be increased to compensate for the background noise. However, this approach is limited by the specified tolerances and by the subjective acceptability of the sound environment to the evaluation pilot.

(b) The acceptability of the background noise levels is dependent upon the normal sound levels in the helicopter being represented. Background noise levels that fall below the lines defined by the following points, may be acceptable:

(i) 70 dB @ 50 Hz;

(ii) 55 dB @ 1000 Hz;

(iii) 30 dB @ 16 kHz.

(Note: These limits are for unweighted 1/3 octave band sound levels. Meeting these limits for background noise does not ensure an acceptable flight simulator. Helicopter sounds that fall below this limit require careful review and may require lower limits on background noise.)

(6) Validation testing. Deficiencies in helicopter recordings should be considered when applying the specified tolerances to ensure that the simulation is representative of the helicopter. Examples of typical deficiencies are:

(a) Variation of data between tail numbers.

(b) Frequency response of microphones.

(c) Repeatability of the measurements.

TABLE C2C.—EXAMPLE OF RECURRENT FREQUENCY RESPONSE TEST TOLERANCE

Band center frequency	Initial results (dBSPL)	Recurrent results (dBSPL)	Absolute difference
50	75.0	73.8	1.2
63	75.9	75.6	0.3
80	77.1	76.5	0.6
100	78.0	78.3	0.3
125	81.9	81.3	0.6
160	79.8	80.1	0.3
200	83.1	84.9	1.8
250	78.6	78.9	0.3
315	79.5	78.3	1.2
400	80.1	79.5	0.9
500	80.7	79.8	0.9
630	81.9	80.4	1.5
800	73.2	74.1	0.9
1000	79.2	80.1	0.9
1250	80.7	82.8	2.1
1600	81.6	78.6	3.0
2000	76.2	74.4	1.8
2500	79.5	80.7	1.2
3150	80.1	77.1	3.0
4000	78.9	78.6	0.3
5000	80.1	77.1	3.0
6300	80.7	80.4	0.3
8000	84.3	85.5	1.2
10000	81.3	79.8	1.5
12500	80.7	80.1	0.6
16000	71.1	71.1	0.0
	Average		1.1

8. Additional Information About Flight Simulator Qualification for New or Derivative Helicopters

a. Typically, a helicopter manufacturer's approved final data for performance, handling qualities, systems or avionics is not available until well after a new or derivative helicopter has entered service. However, flight crew training and certification often begins several months prior to the entry of the first helicopter into service. Consequently, it may be necessary to use preliminary data provided by the helicopter manufacturer for interim qualification of flight simulators.

b. In these cases, the NSPM may accept certain partially validated preliminary helicopter and systems data, and early release ''red label'' avionics data in order to permit the necessary program schedule for training, certification, and service introduction.

c. Simulator sponsors seeking qualification based on preliminary data should consult the NSPM to make special arrangements for using preliminary data for flight simulator qualification. The sponsor should also consult the helicopter and flight simulator manufacturers to develop a data plan and flight simulator qualification plan.

d. The procedure to be followed to gain NSPM acceptance of preliminary data will vary from case to case and between helicopter manufacturers. Each helicopter manufacturer's new helicopter development and test program is designed to suit the needs of the particular project and may not contain the same events or sequence of events as another manufacturer's program or even the same manufacturer's program for a different helicopter. Therefore, there cannot be a prescribed invariable procedure for acceptance of preliminary data; instead there should be a statement describing the final sequence of events, data sources, and validation procedures agreed by the simulator sponsor, the helicopter manufacturer, the flight simulator manufacturer, and the NSPM. Note: A description of helicopter manufacturer-provided data needed for flight simulator

modeling and validation is to be found in the IATA Document ''Flight Simulator Design and Performance Data Requirements,'' as amended.

e. The preliminary data should be the manufacturer's best representation of the helicopter, with assurance that the final data will not deviate significantly from the preliminary estimates. Data derived from these predictive or preliminary techniques should be validated by available sources including, at least, the following:

(1) Manufacturer's engineering report. The report should explain the predictive method used and illustrate past success of the method on similar projects. For example, the manufacturer could show the application of the method to an earlier helicopter model or predict the characteristics of an earlier model and compare the results to final data for that model.

(2) Early flight test results. This data is often derived from helicopter certification tests and should be used to maximum advantage for early flight simulator validation. Certain critical tests that would normally be done early in the helicopter certification program should be included to validate essential pilot training and certification maneuvers. These tests include cases where a pilot is expected to cope with a helicopter failure mode or an engine failure. The early data available will depend on the helicopter manufacturer's flight test program design and may not be the same in each case. The flight test program of the helicopter manufacturer should include provisions for generation of very early flight tests results for flight simulator validation.

f. The use of preliminary data is not indefinite. The helicopter manufacturer's final data should be available within 12 months after the helicopter first entry into service or as agreed by the NSPM, the simulator sponsor, and the helicopter manufacturer. When applying for interim qualification using preliminary data, the simulator sponsor and the NSPM should agree on the update program. This includes specifying that the final data update will be installed in the flight simulator within a period of 12 months following the final data release, unless special conditions exist and a different schedule is acceptable. The flight simulator performance and handling validation would then be based on data derived from flight tests. Initial helicopter systems data should be updated after engineering tests. Final helicopter systems data should also be used for flight simulator programming and validation.

g. Flight simulator avionics should stay essentially in step with helicopter avionics (hardware and software) updates. The permitted time lapse between helicopter and flight simulator updates should be minimal. It may depend on the magnitude of the update and whether the QTG and pilot training and certification are affected. Differences in helicopter and flight simulator avionics versions and the resulting effects on flight simulator qualification should be agreed between the simulator sponsor and the NSPM. Consultation with the flight simulator manufacturer is desirable throughout the qualification process.

h. The following describes an example of the design data and sources that might be used in the development of an interim qualification plan.

(1) The plan should consist of the development of a QTG based upon a mix of flight test and engineering simulation data. For data collected from specific helicopter flight tests or other flights the required design model or data changes necessary to support an acceptable Proof of Match (POM) should be generated by the helicopter manufacturer.

(2) For proper validation of the two sets of data, the helicopter manufacturer should compare their simulation model responses against the flight test data, when driven by the same control inputs and subjected to the same atmospheric conditions as recorded in the flight test. The model responses should result from a simulation where the following systems are run in an integrated fashion and are consistent with the design data released to the flight simulator manufacturer:

(a) Propulsion.
(b) Aerodynamics.
(c) Mass properties.
(d) Flight controls.
(e) Stability augmentation.
(f) Brakes/landing gear.

i. A qualified test pilot should be used to assess handling qualities and performance evaluations for the qualification of flight simulators of new helicopter types.

End Information

Begin QPS Requirement

9. Engineering Simulator—Validation Data

a. When a fully validated simulation (i.e., validated with flight test results) is modified due to changes to the simulated helicopter configuration, the helicopter manufacturer or other acceptable data supplier must coordinate with the NSPM to supply validation data from an ''audited'' engineering simulator/simulation to selectively supplement flight test data. The NSPM must be provided an opportunity to audit the use of the engineering simulation or the engineering simulator during the acquisition of the data that will be used as validation data. Audited data may be used for changes that are incremental in nature. Manufacturers or other data suppliers should be able to demonstrate that the predicted changes in helicopter performance are based on acceptable aeronautical principles with proven success history and valid outcomes. This should include comparisons of predicted and flight test validated data.

b. Helicopter manufacturers or other acceptable data suppliers seeking to use an engineering simulator for simulation validation data as an alternative to flight-test derived validation data, must contact the NSPM and provide the following:

(1) A description of the proposed aircraft changes, a description of the proposed simulation model changes, and the use of an integral configuration management process, including an audit of the actual simulation model modifications that includes a step-by-step description leading from the original model(s) to the current model(s).

(2) A schedule for review by the NSPM of the proposed plan and the subsequent validation data to establish acceptability of the proposal.

(3) Information that demonstrates an ability to qualify the FFS in which this data is to be used in accordance with the criteria contained in § 60.15.

c. To be qualified to supply engineering simulator validation data, for aerodynamic, engine, flight control, or ground handling models, a helicopter manufacturer or other acceptable data supplier must:

(1) Be able to verify their ability to:

(a) Develop and implement high fidelity simulation models; and

(b) Predict the handling and performance characteristics of a helicopter with sufficient accuracy to avoid additional flight test activities for those handling and performance characteristics.

(2) Have an engineering simulator that:

(a) Is a physical entity, complete with a flight deck representative of the simulated class of helicopter;

(b) Has controls sufficient for manual flight;

(c) Has models that run in an integrated manner;

(d) Had fully flight-test validated simulation models as the original or baseline simulation models;

(e) Has an out-of-the-flight deck visual system;

(f) Has actual avionics boxes interchangeable with the equivalent software simulations to support validation of released software;

(g) Uses the same models as released to the training community (which are also used to produce stand-alone proof-of-match and checkout documents);

(h) Is used to support helicopter development and certification; and

(i) Has been found to be a high fidelity representation of the helicopter by the manufacturer's pilots (or other acceptable data supplier), certificate holders, and the NSPM.

(3) Use the engineering simulator to produce a representative set of integrated proof-of-match cases.

(4) Use a configuration control system covering hardware and software for the operating components of the engineering simulator.

(5) Demonstrate that the predicted effects of the change(s) are within the provisions of sub-paragraph ''a'' of this section, and confirm that additional flight test data are not required.

d. Additional Requirements for Validation Data

(1) When used to provide validation data, an engineering simulator must meet the simulator standards currently applicable to training simulators except for the data package.

(2) The data package used must be:

(a) Comprised of the engineering predictions derived from the helicopter design, development, or certification process;

(b) Based on acceptable aeronautical principles with proven success history and valid outcomes for aerodynamics, engine operations, avionics operations, flight control applications, or ground handling;

(c) Verified with existing flight-test data; and

(d) Applicable to the configuration of a production helicopter, as opposed to a flight-test helicopter.

(3) Where engineering simulator data are used as part of a QTG, an essential match must exist between the training simulator and the validation data.

(4) Training flight simulator(s) using these baseline and modified simulation models must be qualified to at least internationally recognized standards, such as contained in the ICAO Document 9625, the ''Manual of Criteria for the Qualification of Flight Simulators.''

End QPS Requirement

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10. [Reserved]

Begin QPS Requirement

11. Validation Test Tolerances

a. Non-Flight-Test Tolerances. If engineering simulator data or other non-flight-test data are used as an allowable form of reference validation data for the objective tests listed in Table C2A of this attachment, the data provider must supply a well-documented mathematical model and testing procedure that enables a replication of the engineering simulation results within 20% of the corresponding flight test tolerances.

End QPS Requirement

Begin Information

b. Background

(1) The tolerances listed in Table C2A of this attachment are designed to measure the quality of the match using flight-test data as a reference.

(2) Good engineering judgment should be applied to all tolerances in any test. A test is failed when the results fall outside of the prescribed tolerance(s).

(3) Engineering simulator data are acceptable because the same simulation models used to produce the reference data are also used to test the flight training simulator (i.e., the two sets of results should be ''essentially'' similar).

(4) The results from the two sources may differ for the following reasons:

(a) Hardware (avionics units and flight controls);

(b) Iteration rates;

(c) Execution order;

(d) Integration methods;

(e) Processor architecture;

(f) Digital drift, including:

(i) Interpolation methods;

(ii) Data handling differences;

(iii) Auto-test trim tolerances.

(5) Any differences must be within 20% of the flight test tolerances. The reasons for any differences, other than those listed above, should be explained.

(6) Guidelines are needed for the application of tolerances to engineering-simulator-generated validation data because:

(a) Flight-test data are often not available due to sound technical reasons;

(b) Alternative technical solutions are being advanced; and

(c) The costs are high.

12. Validation Data Roadmap

a. Helicopter manufacturers or other data suppliers should supply a validation data roadmap (VDR) document as part of the data package. A VDR document contains guidance material from the helicopter validation data supplier recommending the best possible sources of data to be used as validation data in the QTG. A VDR is of special value when requesting interim qualification, qualification of simulators for helicopters certificated prior to 1992, and qualification of alternate engine or avionics fits. A sponsor seeking to have a device qualified in accordance with the standards contained in this QPS appendix should submit a VDR to the NSPM as early as possible in the planning stages. The NSPM is the final authority to approve the data to be used as validation material for the QTG. The NSPM and the Joint Aviation Authorities' Synthetic Training Devices Advisory Board have committed to maintain a list of agreed VDRs.

b. The VDR should identify (in matrix format) sources of data for all required tests. It should also provide guidance regarding the validity of these data for a specific engine type, thrust rating configuration, and the revision levels of all avionics affecting helicopter handling qualities and performance. The VDR should include rationale or explanation in cases where data or parameters are missing, engineering simulation data are to be used, flight test methods require explanation, or where there is any deviation from data requirements. Additionally, the document should refer to other appropriate sources of validation data (e.g., sound and vibration data documents).

c. The VDR table shown in Table C2D depicts a generic roadmap matrix identifying sources of validation data for an abbreviated list of tests. A complete matrix should address all test conditions.

d. Two examples of rationale pages are presented in Appendix F of IATA Flight Simulator Design and Performance Data Requirements document. These illustrate the type of helicopter and avionics configuration information and descriptive engineering rationale used to describe data anomalies, provide alternative data, or provide an acceptable basis for obtaining deviations from QTG validation requirements.

End Information

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ICAO or IATA #	Test Description	Validation Source: CCA Mode*1	Validation Source: Aircraft Flight Test Data *2	Validation Source: Engineering Simulator Data (DEF-73 Engines)	Validation Document: Aerodynamics POM Doc. # xxx123, Rev. A	Validation Document: Flight Controls POM Doc. # xxx456, NEW	Validation Document: Ground Handling POM Doc. # xxx789, Rev. B	Validation Document: Propulsion POM Doc. # xxx321, Rev. C	Validation Document: Integrated POM Doc. # xxx654, Rev. A	Validation Document: Appendix to this VDR Doc. # xxx987, NEW	Comments
	Notes: 1. Only one page is shown; and some test conditions were deleted for brevity; 2. Relevant regulatory material should be consulted and all applicable tests addressed; 3. Validation source, document and comments provided herein are for reference only and do not constitute approval for use										D71 = Engine Type: DEF-71, Thrust Rating: 71.5K D73 = Engine Type: DEF-73, Thrust Rating: 73K **BOLD** upper case denotes primary validation source Lower case denotes alternate validation source R = Rationale included in the VDR Appendix
1.a.1	Minimum Radius Turn		X			D71					
1.a.2	Rate of Turn vs. Nosewheel Angle (2 speeds)		X			D71					
1.b.1	Ground Acceleration Time and Distance		X			d73			D73		Primary data contained in IPOM
1.b.2	Minimum Control Speed, Ground (Vmcg)		x	X	d71					D73	See engineering rationale for test data in VDR
1.b.3	Minimum Unstick Speed (Vmu)		X		D71						
1.b.4	Normal Takeoff		X		d73				D73		Primary data contained in IPOM
1.b.5	Critical Engine Failure on Takeoff		X		d71					D73	Alternate engine thrust rating flight test data in VDR
1.b.6	Crosswind Takeoff		X		d71					D73	Alternate engine thrust rating flight test data in VDR
1.b.7	Rejected Takeoff		X		D71					R	Test procedure anomaly, see rationale
1.b.8	Dynamic Engine Failure After Takeoff			X						D73	No flight test data available; see rationale
1.c.1	Normal Climb - All Engine		X		d71				D71		Primary data contained in IPOM
1.c.2	Climb - Engine-Out, Second Segment		X		d71					D73	Alternate engine thrust rating flight test data in VDR
1.c.3	Climb - Engine-Out, Enroute		X		d71					D73	AFM data available (73K)
1.c.4	Engine-Out Approach Climb		X		D71						
1.c.5 a	Level Flight Acceleration		x	X	d73					D73	Eng sim data w/ modified EEC accel rate in VDR
1.c.5 b	Level Flight Deceleration		x	X	d73					D73	Eng sim data w/ modified EEC decel rate in VDR
1.d.1	Cruise Performance		X		D71						
1.e.1.a	Stopping Time & Distance (Wheel Brakes / Light weight)			X	D71					d73	No flight test data available; see rationale
1.e.1.b	Stopping Time & Distance (Wheel Brakes / Med weight)		X	x	D71					d73	
1.e.1.c	Stopping Time & Distance (Wheel Brakes / Heavy weight)		X	x	D71					d73	
1.e.2.a	Stopping Time & Distance (Reverse Thrust / Light weight)		X	x	D71					d73	
1.e.2.b	Stopping Time & Distance (Reverse Thrust / Med weight)			X	d71					D73	No flight test data available; see rationale

*1 CCA mode must be desc4ribed for each test condition.
*2 If more than one aircraft type (e.g., derivative and baseline) are used as validation data, more columns may be necessary.

Table C2D - Validation Data Roadmap

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Begin Information

13. [Reserved]

14. Acceptance Guidelines for Alternative Avionics (Flight-Related Computers and Controllers)

a. Background

(1) For a new helicopter type, the majority of flight validation data are collected on the first helicopter configuration with a ''baseline'' flight-related avionics ship-set; (see subparagraph b.(2) in this paragraph.) These data are then used to validate all flight simulators representing that helicopter type.

(2) Additional validation data may be needed for flight simulators representing a helicopter with avionics of a different hardware design than the baseline, or a different software revision than that of previously validated configurations.

(3) When a flight simulator with additional or alternate avionics configurations is to be qualified, the QTG should contain tests against validation data for selected cases where avionics differences are expected to be significant. b. Approval Guidelines For Validating Alternate Avionics

(1) The following guidelines apply to flight simulators representing helicopters with a revised avionics configuration, or more than one avionics configuration.

(2) The baseline validation data should be based on flight test data, except where other data are specifically allowed (e.g., engineering flight simulator data).

(3) The helicopter avionics can be segmented into two groups, systems or components whose functional behavior contributes to the aircraft response presented in the QTG results, and systems that do not. The following avionics are examples of contributory systems for which hardware design changes or software revisions may

lead to significant differences in the aircraft response relative to the baseline avionics configuration: flight control computers and controllers for engines, autopilot, braking system, and nose wheel steering system, if applicable. Related avionics such as augmentation systems should also be considered.

(4) The acceptability of validation data used in the QTG for an alternative avionics fit should be determined as follows:

(a) For changes to an avionics system or component that do not affect QTG validation test response, the QTG test can be based on validation data from the previously validated avionics configuration.

(b) For an avionics change to a contributory system, where a specific test is not affected by the change (e.g., the avionics change is a Built In Test Equipment (BITE) update or a modification in a different flight phase), the QTG test can be based on validation data from the previously-validated avionics configuration. The QTG should include authoritative justification (e.g., from the helicopter manufacturer or system supplier) that this avionics change does not affect the test.

(c) For an avionics change to a contributory system, the QTG may be based on validation data from the previously-validated avionics configuration if no new functionality is added and the impact of the avionics change on the helicopter response is based on acceptable aeronautical principles with proven success history and valid outcomes. This should be supplemented with avionics-specific validation data from the helicopter manufacturer's engineering simulation, generated with the revised avionics configuration. The QTG should include an explanation of the nature of the change and its effect on the helicopter response.

(d) For an avionics change to a contributory system that significantly affects some tests in the QTG, or where new functionality is added, the QTG should be based on validation data from the previously validated avionics configuration and supplemental avionics-specific flight test data sufficient to validate the alternate avionics revision. Additional flight test validation data may not be needed if the avionics changes were certified without the need for testing with a comprehensive flight instrumentation package. The helicopter manufacturer should coordinate flight simulator data requirements in advance with the NSPM.

(5) A matrix or ''roadmap'' should be provided with the QTG indicating the appropriate validation data source for each test. The roadmap should include identification of the revision state of those contributory avionics systems that could affect specific test responses.

15. Transport Delay Testing

a. This paragraph describes how to determine the introduced transport delay through the flight simulator system so that it does not exceed a specific time delay. The transport delay should be measured from control inputs through the interface, through each of the host computer modules and back through the interface to motion, flight instrument, and visual systems. The transport delay should not exceed the maximum allowable interval.

b. Four specific examples of transport delay are:

(1) Simulation of classic non-computer controlled helicopters;

(2) Simulation of computer controlled helicopters using real helicopter black boxes;

(3) Simulation of computer controlled helicopters using software emulation of helicopter boxes;

(4) Simulation using software avionics or re-hosted instruments.

c. Figure C2C illustrates the total transport delay for a non-computer-controlled helicopter or the classic transport delay test. Since there are no helicopter-induced delays for this case, the total transport delay is equivalent to the introduced delay.

d. Figure C2D illustrates the transport delay testing method using the real helicopter controller system.

e. To obtain the induced transport delay for the motion, instrument and visual signal, the delay induced by the helicopter controller should be subtracted from the total transport delay. This difference represents the introduced delay and should not exceed the standards prescribed in Table C1A.

f. Introduced transport delay is measured from the flight deck control input to the reaction of the instruments and motion and visual systems (See Figure C2C).

g. The control input may also be introduced after the helicopter controller system input and the introduced transport delay may be measured directly from the control input to the reaction of the instruments, and simulator motion and visual systems (See Figure C2D).

h. Figure C2E illustrates the transport delay testing method used on a flight simulator that uses a software emulated helicopter controller system.

i. It is not possible to measure the introduced transport delay using the simulated helicopter controller system architecture for the pitch, roll and yaw axes. Therefore, the signal should be measured directly from the pilot controller. The flight simulator manufacturer should measure the total transport delay and subtract the inherent delay of the actual helicopter components because the real helicopter controller system has an inherent delay provided by the helicopter manufacturer. The flight simulator manufacturer should ensure that the introduced delay does not exceed the standards prescribed in Table C1A.

j. Special measurements for instrument signals for flight simulators using a real helicopter instrument display system instead of a simulated or re-hosted display. For flight instrument systems, the total transport delay should be measured and the inherent delay of the actual helicopter components subtracted to ensure that the introduced delay does not exceed the standards prescribed in Table C1A.

(1) Figure C2FA illustrates the transport delay procedure without airplane display simulation. The introduced delay consists of the delay between the control movement and the instrument change on the data bus.

(2) Figure C2FB illustrates the modified testing method required to measure introduced delay due to software avionics or re-hosted instruments. The total simulated instrument transport delay is measured and the helicopter delay should be subtracted from this total. This difference represents the introduced delay and should not exceed the standards prescribed in Table C1A. The inherent delay of the helicopter between the data bus and the displays is indicated in figure C2FA. The display manufacturer should provide this delay time.

k. Recorded signals. The signals recorded to conduct the transport delay calculations should be explained on a schematic block diagram. The flight simulator manufacturer should also provide an explanation of why each signal was selected and how they relate to the above descriptions.

l. Interpretation of results. Flight simulator results vary over time from test to test due to ''sampling uncertainty.'' All flight simulators run at a specific rate where all modules are executed sequentially in the host computer. The flight controls input can occur at any time in the iteration, but these data will not be processed before the start of the new iteration. For example, a flight simulator running at 60 Hz may have a difference of as much as 16.67 msec between results. This does not mean that the test has failed. Instead, the difference is attributed to variation in input processing. In some conditions, the host simulator and the visual system do not run at the same iteration rate, so the output of the host computer to the visual system will not always be synchronized.

m. The transport delay test should account for both daylight and night modes of operation of the visual system. In both cases, the tolerances prescribed in Table C1A should be met and the motion response should occur before the end of the first video scan containing new information.

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Figure C2E
Transport Delay for simulation of classic non-computer controlled helicopters.

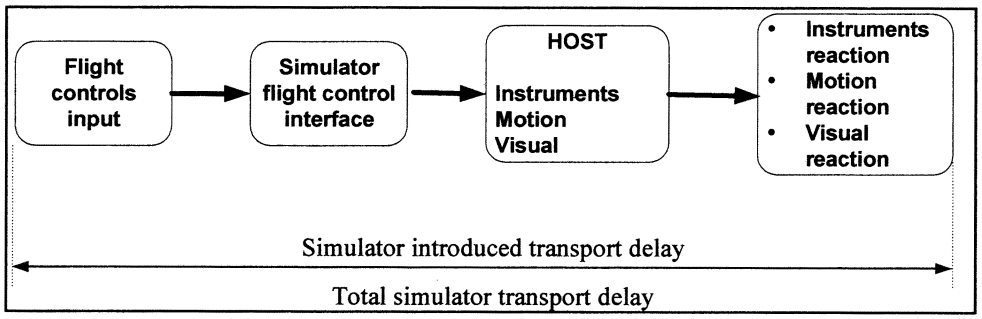


Figure C2F
Transport Delay for simulation of computer controlled helicopters using real helicopter black boxes

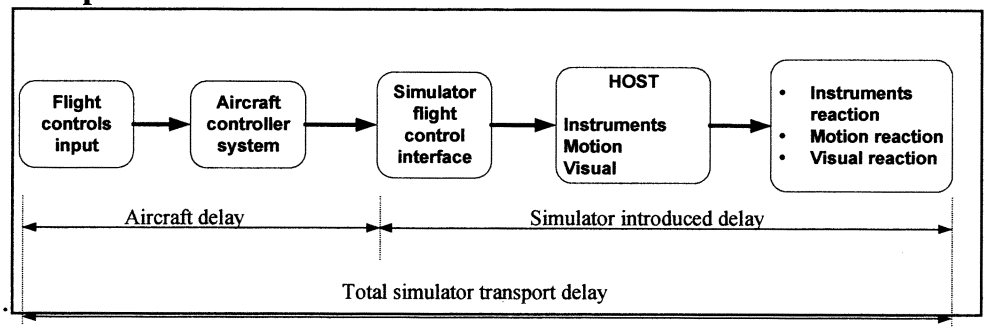


Figure C2G
Transport Delay for simulation of computer controlled helicopters using software emulation of helicopter boxes

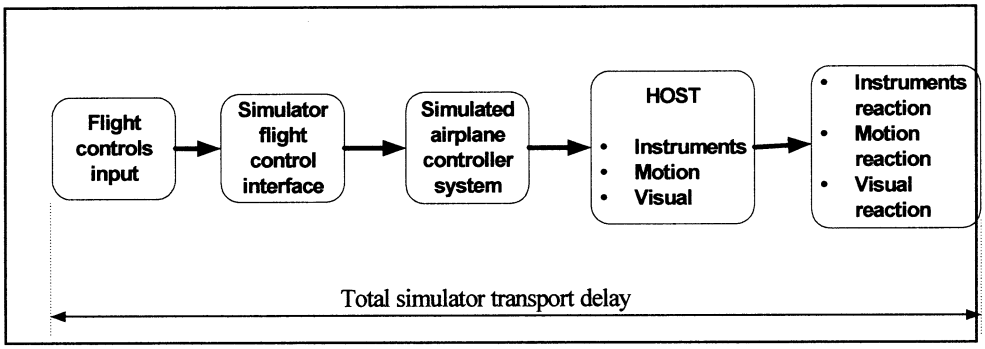
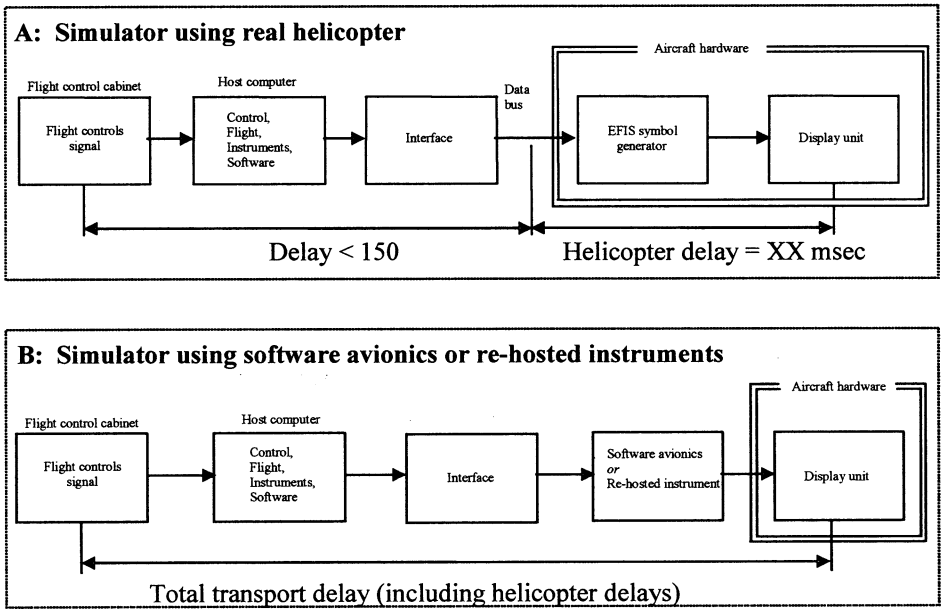


Figure C2HA and C2HB
Transport delay for simulation of helicopters using real or re-hosted instrument drivers



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16. Continuing Qualification Evaluations—Validation Test Data Presentation

a. Background.

(1) The MQTG is created during the initial evaluation of a flight simulator. This is the master document, as amended, to which flight simulator continuing qualification evaluation test results are compared.

(2) The currently accepted method of presenting continuing qualification evaluation test results is to provide flight simulator results over-plotted with reference data. Test results are carefully reviewed to determine if the test is within the specified tolerances. This can be a time consuming process, particularly when reference data exhibits rapid variations or an apparent anomaly requiring engineering judgment in the application of the tolerances. In these cases, the solution is to compare the results to the MQTG. The continuing qualification results are compared to the results in the MQTG for acceptance. The flight simulator operator and the NSPM should look for any change in the flight simulator performance since initial qualification.

b. Continuing Qualification Evaluation Test Results Presentation.

(1) Flight simulator operators are encouraged to over-plot continuing qualification validation test results with MQTG flight simulator results recorded during the initial evaluation and as amended. Any change in a validation test will be readily apparent. In addition to plotting continuing qualification validation test and MQTG results, operators may elect to plot reference data.

(2) There are no suggested tolerances between flight simulator continuing qualification and MQTG validation test results. Investigation of any discrepancy between the MQTG and continuing qualification flight simulator performance is left to the discretion of the flight simulator operator and the NSPM.

(3) Differences between the two sets of results, other than variations attributable to repeatability issues that cannot be explained should be investigated.

(4) The flight simulator should retain the ability to over-plot both automatic and manual validation test results with reference data.

End Information

Begin QPS Requirements

17. Alternative Data Sources, Procedures, and Instrumentation: Level B Simulators Only

a. Sponsors are not required to use the alternative data sources, procedures, and instrumentation. However, any sponsor choosing to use alternative sources must comply with the requirements in Table C2E.

End QPS Requirements

Begin Information

b. It has become standard practice for experienced simulator manufacturers to use such techniques as a means of establishing data bases for new simulator configurations while awaiting the availability of actual flight test data. The data generated from the aerodynamic modeling techniques is then compared to the flight test data when it becomes available. The results of such comparisons have become increasingly consistent, indicating that these techniques, applied with appropriate experience, are dependable and accurate for the development of aerodynamic models for use in Level B simulators.

c. Based on this history of successful comparisons, the NSPM has concluded that those who are experienced in the development of aerodynamic models for simulator application can successfully use these modeling techniques to alter the method for acquiring flight test data for Level B simulators.

d. The information in Table C2E (Alternative Data Sources, Procedures, and Information) is presented to describe an acceptable alternative to data sources for simulator modeling and validation and an acceptable alternative to the procedures and instrumentation traditionally used to gather such modeling and validation data.

(1) Alternative data sources that may be used for part or all of a data requirement are the Helicopter Maintenance Manual, the Rotorcraft Flight Manual (RFM), Helicopter Design Data, the Type Inspection Report (TIR), Certification Data or acceptable supplemental flight test data.

(2) The sponsor should coordinate with the NSPM prior to using alternative data sources in a flight test or data gathering effort.

e. The NSPM position on the use of these alternative data sources, procedures, and instrumentation is based on the use of a rigorously defined and fully mature simulation controls system model that includes accurate gearing and cable stretch characteristics (where applicable), determined from actual aircraft measurements. The model does not require control surface position measurements in the flight test objective data in these limited applications.

f. Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated helicopter instruments, including the inclinometer; the force/position measurements of flight deck controls; and a clear visual directional reference for a known magnetic bearing (e.g., a runway centerline). Ground track and wind corrected heading may be used for sideslip angle.

g. The sponsor is urged to contact the NSPM for clarification of any issue regarding helicopters with reversible control systems. This table is not applicable to Computer Controlled Aircraft flight simulators.

h. Use of these alternate data sources, procedures, and instrumentation does not relieve the sponsor from compliance with the balance of the information contained in this document relative to Level B FFSs.

i. The term ''inertial measurement system'' is used in table C2E include the use of a functional global positioning system (GPS).

j. Synchronized video for the use of alternative data sources, procedures, and instrumentation should have:

(1) sufficient resolution to allow magnification of the display to make appropriate measurement and comparisons; and

(2) sufficient size and incremental marking to allow similar measurement and comparison. The detail provided by the video should provide sufficient clarity and accuracy to measure the necessary parameter(s) to at least ½ of the tolerance authorized for the specific test being conducted and allow an integration of the parameter(s) in question to obtain a rate of change.

End Information

TABLE C2E.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION

[The standards in this table are required if the data gathering methods described in paragraph 9 of Appendix C are not used.]

QPS requirements			
Table of objective tests Test reference number and title	Level B only	Alternative data sources, procedures, and instrumentation	Notes and reminders
1.a.1.a. Performance. Engine Start and Accelerations.	X	Data may be acquired using a synchronized video recording of all engine instruments, start buttons, means for fuel introduction and means for moving from ''idle'' to ''flight.'' A stopwatch is necessary.	
1.a.1.b. Performance. Steady State Idle and Operating RPM Conditions.	X	Data may be acquired using a synchronized video recording of all engine instruments, and include the status of the means for moving from ''idle'' to ''flight.''	
1.a.2. Performance. Power Turbine Speed Trim.	X	Data may be acquired using a synchronized video recording of all engine instruments. Speed trim actuator position may be hand recorded.	
1.a.3. Performance. Engine and Rotor Speed Governing.	X	Data may be acquired by using a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
1.b.1. Performance. On Surface Taxi. Minimum Radius turn.	X	TIR, AFM, or Design data may be used.	

TABLE C2E.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION—Continued

[The standards in this table are required if the data gathering methods described in paragraph 9 of Appendix C are not used.]

QPS requirements			
Table of objective tests Test reference number and title	Level B only	Alternative data sources, procedures, and instrumentation	Notes and reminders
1.b.2. Performance. On Surface Taxi Rate of Turn vs. Nosewheel Steering Angle.	X	Data may be acquired by using a constant tiller position (measured with a protractor), or full pedal application for steady state turn, and synchronized video of heading indicator. If less than full pedal is used, pedal position must be recorded.	A single procedure may not be adequate for all rotorcraft steering systems. Appropriate measurement procedures must be devised and proposed for NSPM concurrence.
1.b.3 Performance. Taxi	X	Data may be acquired by using a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
1.b.4. Performance. Brake	X	Data may be acquired using a stopwatch and a means for measuring distance such as runway distance markers conforming with runway distance marker standards.	
1.c.1. Performance. Running Takeoff	X	Preliminary certification data may be used. Data may be acquired by using a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls. Collective, cyclic, and pedal position time history should be recorded from the start of collective movement through to normal climb. Indicated torque settings may be hand recorded at the moment of lift-off and in a steady normal climb.	
1.c.2 Performance. One Engine Inoperative (OEI), continued takeoff.	X	Data may be acquired by using a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls. Collective, cyclic, and pedal position time history should be recorded from the start of collective movement through to normal OEI climb. Indicated torque settings may be hand recorded at the moment of lift-off and in a steady normal OEI climb.	
1.f. Performance. Level Flight. Trimmed Flight Control Positions.	X	Data may be acquired by using a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
1.g. Performance. Normal Climb. Trimmed Flight Control Positions.	X	Data may be acquired by using a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
1.h.1. Descent Performance and Trimmed Flight Control Positions.	X	Data may be acquired by using a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
1.h.2. Autorotation Performance and Trimmed Flight Control Positions.	X	Data may be acquired by using a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
1.j.1. Performance. Running Landing All Engines.	X	Data may be acquired by using a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	

TABLE C2E.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION—Continued

[The standards in this table are required if the data gathering methods described in paragraph 9 of Appendix C are not used.]

QPS requirements			
Table of objective tests Test reference number and title	Level B only	Alternative data sources, procedures, and instrumentation	Notes and reminders
1.j.2. Performance. Running Landing One Engine Inoperative.	X	Data may be acquired by using a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
1.j.3. Performance. Balked Landing	X	Data may be acquired by using a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls. The synchronized video must record the time of the ''balk landing'' decision.	
2.a.1. Handling Qualities. Static Control Checks. Cyclic Controller Position vs. Force.	X	Control positions can be obtained using continuous control position recordings. Force data may be acquired by using a hand held force gauge so that the forces can be cross-plotted against control position in each of the control axes.	
2.a.2. Handling Qualities. Static Control Checks. Collective/Pedals vs. Force.	X	Control positions can be obtained using continuous control position recordings. Force data may be acquired by using a hand held force gauge so that the forces can be cross-plotted against control position in each of the control axes.	
2.a.3. Handling Qualities. Brake Pedal Force vs. Position.	X	Brake pedal positions can be obtained using continuous position recordings. Force data may be acquired by using a hand held force gauge so that the forces can be cross-plotted against brake pedal position.	
2.a.4. Handling Qualities. Trim System Rate (all applicable systems).	X	Control positions can be obtained using continuous control position recordings plotted against time to provide rate in each applicable system.	
2.a.6. Handling Qualities. Control System Freeplay.	X	Data may be acquired by direct measurement.	
2.c.1. Longitudinal Handling qualities. Control Response.	X	Data may be acquired by using an inertial measurement system, a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
2.c.2. Longitudinal Handling qualities. Static Stability.	X	Data may be acquired by using an inertial measurement system, a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
2.c.3.a Longitudinal Handling qualities. Dynamic Stability, Long Term Response.	X	Data may be acquired by using an inertial measurement system, a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
2.c.3.b. Longitudinal Handling qualities. Dynamic Stability, Short Term Response.	X	Data may be acquired by using an inertial measurement system, a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	

TABLE C2E.—ALTERNATIVE DATA SOURCES, PROCEDURES, AND INSTRUMENTATION—Continued

[The standards in this table are required if the data gathering methods described in paragraph 9 of Appendix C are not used.]

QPS requirements			
Table of objective tests Test reference number and title	Level B only	Alternative data sources, procedures, and instrumentation	Notes and reminders
2.c.4. Longitudinal Handling qualities. Maneuvering stability.	X	Data may be acquired by using an inertial measurement system, a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
2.d.1.a Lateral Handling qualities. Control Response.	X	Data may be acquired by using an inertial measurement system, a synchronized video of the calibrated helicopter instruments and the force/position measurements of flight deck controls.	
2.d.1.b Directional Handling qualities. Control response.	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated helicopter instruments and force/position measurements of flight deck directional controls.	
2.d.2. Handling qualities. Directional Static Stability.	X	Data may be acquired by using an inertial measurement system and a synchronized video of calibrated helicopter instruments and force/position measurements of flight deck directional controls.	
2.d.3.a Handling qualities Dynamic Lateral and Directional Stability Lateral-Directional Oscillations.	X	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated helicopter instruments, the force/position measurements of flight deck controls, and a stop watch.	
2.d.3.b. Handling qualities Dynamic Lateral and Directional Stability Spiral Stability.	X	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated helicopter instruments, the force/position measurements of flight deck controls, and a stop watch.	
2.d.3.c Handling qualities. Dynamic Lateral and Directional Stability. Adverse/Proverse Yaw.	X	Data may be acquired by using an inertial measurement system and a synchronized video of the calibrated helicopter instruments, the force/position measurements of flight deck controls.	

Begin Information

18. Visual Display Systems

a. Basic principles of an FSTD collimated display:

(1) The essential feature of a collimated display is that light rays coming from a given point in a picture are parallel. There are two main implications of the parallel rays:

(a) The viewer's eyes focus at infinity and have zero convergence, providing a cue that the object is distant; and

(b) The angle to any given point in the picture does not change when viewed from a different position so the object behaves geometrically as though it were located at a significant distance from the viewer. These cues are self-consistent, and are appropriate for any object that has been modelled as being at a significant distance from the viewer.

(2) In an ideal situation the rays are perfectly parallel, but most implementations provide only an approximation to the ideal. Typically, an FSTD display provides an image located not closer than about 20–33 ft (6–10 m) from the viewer, with the distance varying over the field of view. A schematic representation of a collimated display is provided in Figure C2A.

(3) Collimated displays are well suited to many simulation applications as the area of interest is relatively distant from the observer so the angles to objects should remain independent of viewing position. Consider the view of the runway seen by the flight crew lined up on an approach. In the real world, the runway is distant and the light rays from the runway to the eyes are parallel. The runway appears to be straight ahead to both crew members. This situation is well simulated by a collimated display and is presented in Figure C2B. Note that the distance to the runway has been shortened for clarity. If drawn to scale, the runway would be farther away and the rays from the two seats would be closer to being parallel.

(4) While the horizontal field of view of a collimated display can be extended to approximately 210°–220°, the vertical field of view has been limited to about 40°–45°. These limitations result from tradeoffs in optical quality and interference between the display components and flight deck structures, but were sufficient to meet FSTD regulatory approval for Helicopter FSTDs. However, recent designs have been introduced with vertical fields of view of up to 60° for helicopter applications.

b. Basic principles of an FSTD dome (or non-collimated) display:

(1) The situation in a dome display is shown in Figure C2C. As the angles can be correct for only one eye point at a time, the visual system in the figure has been aligned for the right seat eye point position. The runway appears to be straight ahead of the

aircraft for this viewer. For the left seat viewer, however, the runway appears to be somewhat to the right of the aircraft. As the aircraft is still moving towards the runway, the perceived velocity vector will be directed towards the runway and this will be interpreted as the aircraft having some yaw offset.

(2) The situation is substantially different for near field objects encountered in helicopter operations close to the ground. In those cases, objects that should be interpreted as being close to the viewer will be misinterpreted as being distant in a collimated display. The errors can actually be reduced in a dome display.

(3) The field of view possible with a dome display can be larger than that of a collimated display. Depending on the configuration, a field of view of 240° by 90° is possible and can be exceeded.

c. Additional display considerations

(1) While the situations described above are for discrete viewing positions, the same arguments can be extended to moving eye points produced by the viewer's head movement. In the real world, the parallax effects resulting from head movement provide distance cues. The effect is particularly strong for relative movement of flight deck structure in the near field and modelled objects in the distance. Collimated displays will provide accurate parallax cues for distant objects, but increasingly inaccurate cues for near field objects. The situation is reversed for dome displays.

(2) Stereopsis cues resulting from the different images presented to each eye for objects relatively close to the viewer also provide depth cues. Again, the collimated and dome displays provide more or less accurate cues depending on the modelled distance of the objects being viewed.

d. Training implications

(1) In view of the basic principles described above, it is clear that neither display approach provides a completely accurate image for all possible object distances. The sponsor should consider the training role of the FSTD when configuring the display system to make the optimum choice. Factors that should be considered include relative importance of training tasks at low altitudes, the role of the two crew members in the flying tasks, and the field of view required for specific training tasks.

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End Information

Plan Views of Collimated and Dome (or Non-collimated) Visual Display Systems

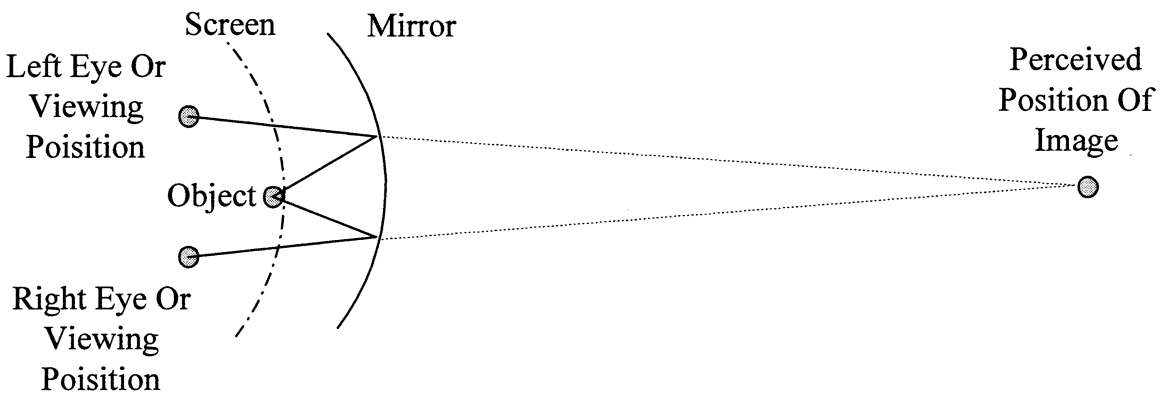

Figure C2I - Collimated display

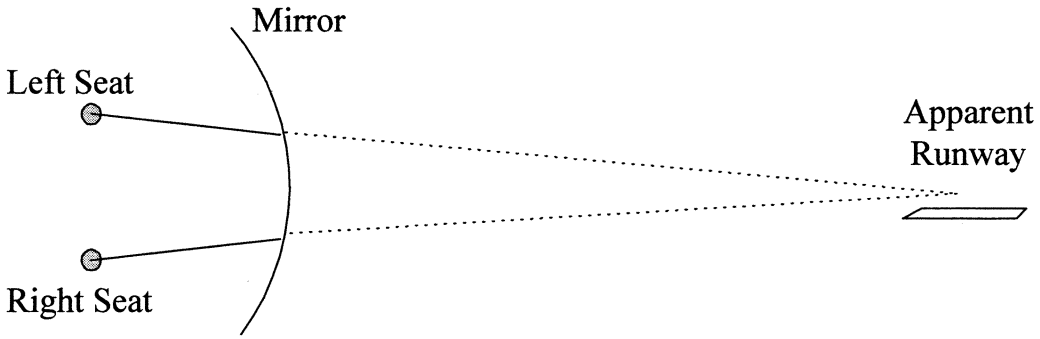

Figure C2J - Runway view in a collimated display

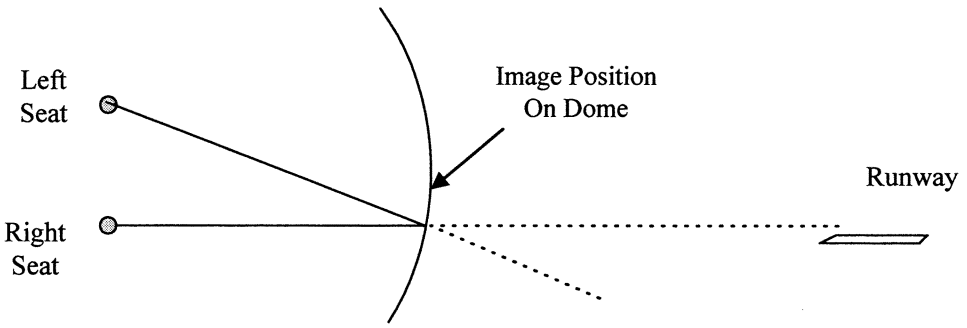

Figure C2K - Runway view in a dome display

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Attachment 3 to Appendix C to Part 60—Simulator Subjective Evaluation

Begin QPS Requirements

1. Requirements

a. Except for special use visual scenes and airport models described below, all visual scenes and airport models required by this part must be representations of real-world, operational airports or representations of fictional airports and must meet the requirements set out in Tables C3B and C3C of this attachment, as appropriate.

b. If fictional airports are used, the sponsor must ensure that navigational aids and all appropriate maps, charts, and other navigational reference material for the fictional airports (and surrounding areas as necessary) are compatible, complete, and accurate with respect to the visual presentation and scene content of the visual model of this fictional airport. An SOC must be submitted that addresses navigation aid installation and performance and other criteria (including obstruction clearance protection) for all instrument approaches to the fictional airports that are available in the simulator. The SOC must reference and account for information in the terminal instrument procedures manual and the construction and availability of the required maps, charts, and other navigational material.

This material must be clearly marked ''for training purposes only.''

c. When the simulator is being used by an instructor or evaluator for purposes of training, checking, or testing under this chapter, only visual scenes and airport models classified as Class I, Class II, or Class III may be available to the instructor or evaluator. The classifications are as follows:

(1) Class I (whether modeling real world airports or fictional airports), for those visual scenes and airport models used for simulator qualification at a specified level. These visual scenes and airport models must meet the minimum requirements in Table C3B of this attachment, be evaluated by the NSPM, be listed on the Statement of Qualification (SOQ), and be available for use at the simulator IOS.

(2) Class II (whether modeling real world airports or fictional airports), for those visual scenes and airport models that are in excess of those used for simulator qualification at a specified level. These visual scenes and airport models must meet the minimum requirements set out in Table C3C of this attachment. These visual scenes and airport models may be made available on the simulator IOS without further involvement of the NSPM or the TPAA.

(3) For an interim period (ending 2 years after the publication of the final rule in the **Federal Register**), Class III visual scenes and airport models (whether modeling real world airports, generic airports, or fictional airports) may be approved for specific purposes by the TPAA or a foreign regulatory authority for a foreign user of the device. Examples of approved activities include specific airport or runway qualification, very low visibility operations training, including Surface Movement Guidance System (SMGS) operations, or use of a specific airport visual model aligned with an instrument procedure for another airport for instrument training. At the end of the interim period, all Class III visual scenes and airport models must be classified as either a Class I or a Class II visual scene or airport model or be removed from availability at the simulator IOS. However, Class III visual scenes and airport models may continue to be used after the end of the interim period if they are part of a training program specifically approved by the TPAA or other regulatory authority that uses a task and capability analysis as the basis for approval of this specific media element, (i.e., the specific scene or model selected for use in that program).

d. When a person sponsors an FSTD maintained by a person other than a U.S. certificate holder, the sponsor is accountable for that FSTD originally meeting, and continuing to meet, the criteria under which it was originally qualified and the appropriate part 60 criteria, including the visual scenes and airport models that may be used by instructors or evaluators for purposes of training, checking, or testing under this chapter.

e. Neither Class II nor Class III airport visual models are required to appear on the SOQ. However, the sponsor is accountable that the FSTD originally meets, and continues to meet, the visual scene and airport model requirements for Class II or Class III visual scenes and airport models that may be used by instructors or evaluators for training, checking, or testing under this chapter.

f. When the visual scenes and airport models represent real world airports and a permanent change is made to that real world airport (e.g., a new runway, an extended taxiway, a new lighting system, a runway closure) without a written extension grant from the NSPM (described below), an update to that visual scene or airport model must be made in accordance with the following time limits:

(1) For a new airport runway, a runway extension, a new airport taxiway, a taxiway extension, or a runway/taxiway closure—within 60 days of the opening for use of the new airport runway, runway extension, new airport taxiway, or taxiway extension; or within 60 days of the closure of the runway or taxiway.

(2) For a new or modified approach light system—within 30 days of the activation of the new or modified approach light system.

(3) For other facility or structural changes on the airport (e.g., new terminal, relocation of Air Traffic Control Tower)—within 6 months of the opening of the new or changed facility or structure.

g. If a sponsor desires an extension to the time limit for an update to a visual scene or airport model, the sponsor must provide a written extension request to the POI/TCPM stating the reason for the update delay and a proposed completion date. A copy of this request must also be sent to the NSPM. The sponsor will forward a copy of the POI/TCPM's response to the NSPM. If the POI/TCPM has granted an extension, the NSPM will issue an extension authorization, not to exceed an additional 12 months.

End QPS Requirements

Begin Information

2. Discussion

a. The subjective tests provide a basis for evaluating the capability of the simulator to perform over a typical utilization period; determining that the simulator competently simulates each required maneuver, procedure, or task; and verifying correct operation of the simulator controls, instruments, and systems. The items listed in the following Tables are for simulator evaluation purposes only. They may not be used to limit or exceed the authorizations for use of a given level of simulator as described on the Statement of Qualification or as may be approved by the TPAA. All items in the following paragraphs are subject to an examination.

b. The tests in Table C3A, Operations Tasks, in this attachment address pilot functions, including maneuvers and procedures (called flight tasks), and are divided by flight phases. The performance of these tasks by the NSPM includes an operational examination of the visual system and special effects. There are flight tasks included to address some features of advanced technology helicopters and innovative training programs.

c. The tests in Table C3A, Operations Tasks, and Table C3G, Instructor Operating Station, in this attachment address the overall function and control of the simulator including the various simulated environmental conditions; simulated helicopter system operation (normal, abnormal, and emergency); visual system displays; and special effects necessary to meet flight crew training, evaluation, or flight experience requirements.

d. All simulated helicopter systems functions will be assessed for normal and, where appropriate, alternate operations. Normal, abnormal, and emergency operations associated with a flight phase will be assessed during the evaluation of flight tasks or events within that flight phase. Simulated helicopter systems are listed separately under ''Any Flight Phase'' to ensure appropriate attention to systems checks. Operational navigation systems (including inertial navigation systems, global positioning systems, or other long-range systems) and the associated electronic display systems will be evaluated if installed. The NSP pilot will include in his report to the TPAA, the effect of the system operation and any system limitation.

e. Simulators demonstrating a satisfactory circling approach will be qualified for the circling approach maneuver and may be approved for such use by the TPAA in the sponsor's FAA-approved flight training program. To be considered satisfactory, the circling approach will be flown at maximum gross weight for landing, with minimum visibility for the helicopter approach category, and must allow proper alignment with a landing runway at least 90° different from the instrument approach course while allowing the pilot to keep an identifiable portion of the airport in sight throughout the maneuver (reference—14 CFR 91.175(e)).

f. At the request of the TPAA, the NSP Pilot may assess the simulator for a special aspect of a sponsor's training program during the functions and subjective portion of an evaluation. Such an assessment may include a portion of a Line Oriented Flight Training (LOFT) scenario or special emphasis items in the sponsor's training program. Unless directly related to a requirement for the qualification level, the results of such an evaluation would not affect the qualification of the simulator.

g. This appendix addresses helicopter simulators at Levels B, C, and D because there are no Level A Helicopter simulators.

h. The FAA intends to allow the use of Class III visual scenes and airport models on a limited basis when the sponsor provides the TPAA (or other regulatory authority) an appropriate analysis of the skills, knowledge, and abilities (SKAs) necessary for competent performance of the tasks in which this particular media element is used. The analysis should describe the ability of the FSTD/visual media to provide an adequate environment in which the required SKAs may be satisfactorily performed and learned. The analysis should also include the specific media element, such as the visual scene or airport model. Additional sources of information on the conduct of task and capability analysis may be found on the FAA's Advanced Qualification Program (AQP) Web site at: *http://www.faa.gov/education_research/training/aqp/.*

i. Previously qualified simulators with certain early generation Computer Generated Image (CGI) visual systems, are limited by the capability of the Image Generator or the display system used. These systems are:

(1) Early CGI visual systems that are exempt from the necessity of including runway numbers as a part of the specific runway marking requirements are:

(a) Link NVS and DNVS.

(b) Novoview 2500 and 6000.

(c) FlightSafety VITAL series up to, and including, VITAL III, but not beyond.

(d) Rediffusion SP1, SP1T, and SP2.

(2) Early CGI visual systems are excepted from the necessity of including runway numbers unless the runways used for LOFT training sessions. These LOFT airport models require runway numbers, but only for the specific runway end (one direction) used in the LOFT session. The systems required to display runway numbers only for LOFT scenes are:

(a) FlightSafety VITAL IV.

(b) Rediffusion SP3 and SP3T.

(c) Link-Miles Image II.

(3) The following list of previously qualified CGI and display systems are incapable of generating blue lights. These systems are not required to have accurate taxi-way edge lighting are:

(a) Rediffusion SP1 and SP1T.

(b) FlightSafety Vital IV.

(c) Link-Miles Image II and Image IIT

(d) XKD displays (even though the XKD image generator is capable of generating blue colored lights, the display cannot accommodate that color).

End Information

TABLE C3A.—FUNCTIONS AND SUBJECTIVE TESTS

<<<QPS requirements>>>

Number	Operations tasks	Simulator level		
		B	C	D
Tasks in this table are subject to evaluation if appropriate for the airplane simulated as indicated in the SOQ Configuration List or the level of simulator qualification involved. Items not installed or not functional on the simulator and, therefore, not appearing on the SOQ Configuration List, are not required to be listed as exceptions on the SOQ.				
1. Preparation for Flight				
1.a.	Flight deck check: switches, indicators, systems, and equipment	X	X	X
2. APU/Engine start and run-up				
2.a.	Normal start procedures	X	X	X
2.b.	Alternate start procedures	X	X	X
2.c.	Abnormal starts and shutdowns (e.g., hot start, hung start)	X	X	X
2.d.	Rotor engagement	X	X	X
2.e.	System checks	X	X	X
3. Taxiing—Ground				
3.a.	Power required to taxi	X	X	X
3.b.	Brake effectiveness	X	X	X
3.c.	Ground handling	X	X	X
3.d.	Water handling (if applicable)		X	X
3.e.	Abnormal/emergency procedures:			
3.e.1.	Brake system failure	X	X	X
3.e.2.	Ground resonance		X	X
3.e.3.	Dynamic rollover		X	X
3.e.4.	Deployment of emergency floats/water landing		X	X
3.e.5.	Others listed on the Statement of Qualification	A	X	X
4. Taxiing—Hover				
4.a.	Takeoff to a hover	X	X	X
4.b.	Instrument response:			
4.b.1.	Engine instruments	X	X	X
4.b.2.	Flight instruments	X	X	X
4.b.3.	Hovering turns	X	X	X

TABLE C3A.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Operations tasks	Simulator level		
		B	C	D
4.c.	Hover power checks:			
4.c.1.	In ground effect (IGE)	X	X	X
4.c.2.	Out of ground effect (OGE)	X	X	X
4.d.	Crosswind/tailwind hover	X	X	X
4.e.	Translating tendency	X	X	X
4.f.	External load operations:			
4.f.1.	Hookup		X	X
4.f.2.	Release		X	X
4.f.3.	Winch operations		X	X
4.g.	Abnormal/emergency procedures:			
4.g.1.	Engine failure	X	X	X
4.g.2.	Fuel governing system failure	X	X	X
4.g.3.	Settling with power (OGE)	X	X	X
4.g.4.	Hovering autorotation		X	X
4.g.5.	Stability augmentation system failure	X	X	X
4.g.6.	Directional control malfunction	X	X	X
4.g.7.	Loss of tail rotor effectiveness (LTE)		X	X
4.g.8.	Others listed on the Statement of Qualification	A	X	X
4.h.	Pre-takeoff checks	X	X	X
5. Takeoff/Translational Flight				
5.a.	Forward (up to effective translational lift)		X	X
5.b.	Sideward (up to limiting airspeed)		X	X
5.c.	Rearward (up to limiting airspeed)		X	X
6. Takeoff and Departure Phase				
6.a.	Normal	X	X	X
6.a.1.	From ground	X	X	X
6.a.2.	From hover	X	X	X
6.a.2.a.	Cat A	X	X	X
6.a.2.b.	Cat B	X	X	X
6.a.3.	Running	X	X	X
6.a.4.	Crosswind/tailwind	X	X	X
6.a.5.	Maximum performance	X	X	X
6.a.6.	Instrument	X	X	X
6.a.7.	Takeoff from a confined area	X	X	X
6.a.8.	Takeoff from a pinnacle/platform	X	X	X

TABLE C3A.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Operations tasks	Simulator level		
		B	C	D
6.a.9.	Takeoff from a slope	X	X	X
6.a.10.	External load operations		X	X
6.b.	Abnormal/emergency procedures	X	X	X
6.b.1.	Takeoff with engine failure after critical decision point (CDP)	X	X	X
6.b.1.a.	Cat A		X	X
6.b.1.b.	Cat B		X	X
6.c.	Rejected takeoff:			
6.c.1.	Land	X	X	X
6.c.2.	Water (if appropriate)	X	X	X
6.d.	Instrument departure	X	X	X
6.e.	Others as listed on the Statement of Qualification	A	X	X
7. Climb				
7.a.	Normal	X	X	X
7.b.	Obstacle clearance	X	X	X
7.c.	Vertical		X	X
7.d.	One engine inoperative	X	X	X
7.e.	Others as listed on the Statement of Qualification	A	X	X
8. Cruise				
8.a.	Performance	X	X	X
8.b.	Flying qualities	X	X	X
8.c.	Turns	X	X	X
8.c.1.	Timed	X	X	X
8.c.2.	Normal	X	X	X
8.c.3.	Steep	X	X	X
8.d.	Accelerations and decelerations	X	X	X
8.e.	High speed vibrations	X	X	X
8.f.	(Reserved)			
8.g.	Abnormal/emergency procedures	X	X	X
8.g.1.	Engine fire	X	X	X
8.g.2.	Engine failure	X	X	X
8.g.3.	Inflight engine shutdown and restart	X	X	X
8.g.4.	Fuel governing system failures	X	X	X
8.g.5.	Directional control malfunction	X	X	X
8.g.6.	Hydraulic failure	X	X	X
8.g.7.	Stability system failure	X	X	X

TABLE C3A.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Operations tasks	Simulator level		
		B	C	D
8.g.8.	Rotor vibrations	X	X	X
8.g.9.	Recovery from unusual altitudes	X	X	X
9. Descent				
9.a.	Normal	X	X	X
9.b.	Maximum rate	X	X	X
9.c.	Autorotative:			
9.c.1.	Straight-in	X	X	X
9.c.2.	With turn	X	X	X
9.d.	External Load		X	X
10. Approach				
10.a.	Non-precision	X	X	X
10.a.1.	All engines operating	X	X	X
10.a.2.	One or more engines inoperative	X	X	X
10.a.3.	Approach procedures	X	X	X
10.a.3.a.	NDB	X	X	X
10.a.3.b.	VOR, RNAV, TACAN	X	X	X
10.a.3.c.	ASR	X	X	X
10.a.3.d.	Circling	X	X	X
10.a.3.e.	Helicopter only	X	X	X
10.a.4.	Missed approach	X	X	X
10.a.4.a.	All engines operating	X	X	X
10.a.4.b.	One or more engines inoperative	X	X	X
10.b.	Precision	X	X	X
10.b.1.	All engines operating	X	X	X
10.b.2.	Manually controlled—one or more engines inoperative	X	X	X
10.b.3.	Approach procedures	X	X	X
10.b.3.a.	PAR	X	X	X
10.b.3.b.	MLS	X	X	X
10.b.3.c.	ILS	X	X	X
10.b.3.c.	(1) Manual (raw data)	X	X	X
10.b.3.c.	(2) Flight director only	X	X	X
10.b.3.c.	Autopilot*only	X	X	X
10.b.3.c.	Cat I	X	X	X
10.b.3.c.	Cat II	X	X	X
10.b.4.	Missed approach:			

TABLE C3A.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Operations tasks	Simulator level		
		B	C	D
10.b.4.a.	All engines operating	X	X	X
10.b.4.b.	One or more engines inoperative	X	X	X
10.b.4.c.	Stability system failure	X	X	X
10.c.	Others as listed on the Statement of Qualification	A	X	X
11. Landings and Approaches to Landings				
11.a.	Visual approaches:			
11.a.1.	Normal	X	X	X
11.a.2.	Steep	X	X	X
11.a.3.	Shallow	X	X	X
11.a.4.	Crosswind	X	X	X
11.a.5.	Category A profile		X	X
11.a.6.	Category B profile		X	X
11.a.7.	External Load		X	X
11.b.	Abnormal/emergency procedures:			
11.b.1.	Directional control failure	X	X	X
11.b.2.	Hydraulics failure	X	X	X
11.b.3.	Fuel governing failure	X	X	X
11.b.4.	Autorotation	X	X	X
11.b.5.	Stability system failure	X	X	X
11.b.6.	Others listed on the Statement of Qualification	A	X	X
11.c.	Landings:			
11.c.1.	Normal	X	X	X
11.c.1.a.	Running	X	X	X
11.c.1.b.	From Hover	X	X	X
11.c.2.	Pinnacle/platform	X	X	X
11.c.3.	Confined area	X	X	X
11.c.4.	Slope		X	X
11.c.5.	Crosswind	X	X	X
11.c.6.	Tailwind	X	X	X
11.c.7.	Rejected Landing	X	X	X
11.c.8.	Abnormal/emergency procedures:			
11.c.8.a.	From autorotation		X	X
11.c.8.	One or more engines inoperative	X	X	X
11.c.8.	Directional control failure	X	X	X
11.c.8.	Hydraulics failure	X	X	X

TABLE C3A.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Operations tasks	Simulator level		
		B	C	D
11.c.8.	Stability augmentation system failure	X	X	X
11.c.8.	Other (as may be listed on the Statement of Qualification)	A	X	X
12. Any Flight Phase				
12.a.1.	Air conditioning	X	X	X
12.a.2.	Anti-icing/deicing	X	X	X
12.a.3.	Auxiliary power-plant	X	X	X
12.a.4.	Communications	X	X	X
12.a.5.	Electrical	X	X	X
12.a.6.	Fire detection and suppression	X	X	X
12.a.7.	Stabilizer	X	X	X
12.a.8.	Flight controls	X	X	X
12.a.9.	Fuel and oil	X	X	X
12.a.10.	Hydraulic	X	X	X
12.a.11.	Landing gear	X	X	X
12.a.12.	Oxygen	X	X	X
12.a.13.	Pneumatic	X	X	X
12.a.14.	Powerplant	X	X	X
12.a.15.	Flight control computers	X	X	X
12.a.16.	Stability and control augmentation	X	X	X
12.b.	Flight management and guidance system:			
12.b.1.	Airborne radar	X	X	X
12.b.2.	Automatic landing aids	X	X	X
12.b.3.	Autopilot	X	X	X
12.b.4.	Collision avoidance system	X	X	X
12.b.5.	Flight data displays	X	X	X
12.b.6.	Flight management computers	X	X	X
12.b.7.	Heads-up displays	X	X	X
12.b.8.	Navigation systems	X	X	X
12.c.	Airborne procedures:			
12.c.1.	Holding	X	X	X
12.c.2.	Air hazard avoidance	X	X	X
12.c.3.	Retreating blade stall recovery	X	X	X
12.c.4.	Mast bumping	X	X	X
12.c.5.	Loss of directional control	X	X	X
12.c.6.	Loss of tail rotor effectiveness		X	X

TABLE C3A.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Operations tasks	Simulator level		
		B	C	D
12.c.7.	Others listed on the Statement of Qualification	A	X	X
13. Engine Shutdown and Parking				
13.a.	Engine and systems operation	X	X	X
13.b.	Parking brake operation	X	X	X
13.c.	Rotor brake operation	X	X	X
13.d.	Abnormal/emergency procedures	X	X	X

Note: An ''A'' in the table indicates that the system, task, or procedure may be examined if the appropriate aircraft system or control is simulated in the FFS and is working properly.

TABLE C3B.—FUNCTIONS AND SUBJECTIVE TESTS

<<< QPS requirements>>>

Number	Visual scene content requirements for qualification at the stated level Class I visual scenes/visual models	Simulator level		
		B	C	D
This table specifies the minimum airport visual model content and functionality to qualify a simulator at the indicated level. This table applies only to the airport scenes required for simulator qualification; i.e., two helicopter landing area models for Level B simulators; four helicopter landing area models for Level C and Level D simulators.				
1.	**Functional test content requirements for Non-Zero Flight Time (NZFT) Level simulators** The following is the minimum airport/landing area model content requirement to satisfy visual capability tests, and provides suitable visual cues to allow completion of all functions and subjective tests described in this attachment for simulators at Level B.			
1.a.	A minimum of one (1) representative airport and one (1) representative helicopter landing area model. The airport and the helicopter landing area may be contained within the same model. If this option is selected, the approach path to the airport runway(s) and the approach path to the helicopter landing area must be different. The model(s) used to meet the following requirements may be demonstrated at either a fictional or a real-world airport or helicopter landing area, but each must be acceptable to the sponsor's TPAA, selectable from the IOS, and listed on the Statement of Qualification.	X		
1.b.	The fidelity of the visual scene must be sufficient for the aircrew to visually identify the airport and/or helicopter landing area; determine the position of the simulated helicopter within the visual scene; successfully accomplish take-offs, approaches, and landings; and maneuver around the airport on the ground, or hover taxi, as necessary.	X		
1.c.	Runways:			
1.c.1.	Visible runway number	X		
1.c.2.	Runway threshold elevations and locations must be modeled to provide sufficient correlation with helicopter systems (e.g., altimeter).	X		
1.c.3.	Runway surface and markings	X		
1.c.4.	Lighting for the runway in use including runway edge and centerline	X		
1.c.5.	Lighting, visual approach aid (VASI or PAPI) and approach lighting of appropriate colors	X		
1.c.6.	Representative taxiway lights	X		
1.d.	Other helicopter landing area:			
1.d.1.	Standard heliport designation (''H'') marking, properly sized and oriented	X		
1.d.2.	Perimeter markings for the Touchdown and Lift-Off Area (TLOF) or the Final Approach and Takeoff Area (FATO), as appropriate.	X		
1.d.3.	Perimeter lighting for the TLOF or the FATO areas, as appropriate.	X		

TABLE C3B.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

Number	Visual scene content requirements for qualification at the stated level Class I visual scenes/visual models	Simulator level		
		B	C	D
1.d.4. ...	Appropriate markings and lighting to allow movement from the runway or helicopter landing area to another part of the landing facility.	X		
2.	**Functional test content requirements for Level C and Level D simulators** The following is the minimum airport/landing area model content requirement to satisfy visual capability tests, and provide suitable visual cues to allow completion of all functions and subjective tests described in this attachment for simulators at Level C and Level D. Not all of the elements described in this section must be found in a single airport/landing area scene. However, all of the elements described in this section must be found throughout a combination of the four (4) airport/landing area models described in item 2.a. The representations of the hazards (as described in 2.d.) must be ''hard objects'' that interact as such if contacted by the simulated helicopter. Additionally, surfaces on which the helicopter lands must be ''hard surfaces.'' The model(s) used to meet the following requirements must be demonstrated at either a fictional or a real-world airport or helicopter landing area, and each must be acceptable to the sponsor's TPAA, selectable from the IOS, and listed on the Statement of Qualification.			
2.a.	There must be at least the following airport/helicopter landing areas			
2.a.1. ...	At least one (1) representative airport		X	X
2.a.2. ...	At least three representative non-airport landing areas, as follows:			
2.a.2.a.	At least one (1) representative helicopter landing area situated on a substantially elevated surface with respect to the surrounding structures or terrain (e.g., building top, offshore oil rig).		X	X
2.a.2.b.	At least one (1) helicopter landing area that meets the definition of a ''confined landing area''		X	X
2.a.2.c.	At least one (1) helicopter landing area on a sloped surface where the slope is at least 2½°		X	X
2.b.	For each of the airport/helicopter landing areas described in 2.a., the simulator must be able to provide at least the following:.		X	X
2.b.1. ...	A night and twilight (dusk) environment		X	X
2.b.2. ...	A daylight environment		X	X
2.c.	Non-airport helicopter landing areas must have the following:			
2.c.1. ...	Representative buildings, structures, and lighting within appropriate distances		X	X
2.c.2. ...	Representative moving and static clutter (e.g., other aircraft, power carts, tugs, fuel trucks)		X	X
2.c.3. ...	Representative depiction of terrain and obstacles as well as significant and identifiable natural and cultural features, within 25 NM of the reference landing area.		X	X
2.c.4. ...	Standard heliport designation (''H'') marking, properly sized and oriented		X	X
2.c.5. ...	Perimeter markings for the Touchdown and Lift-Off Area (TLOF) or the Final Approach and Takeoff Area (FATO), as appropriate.		X	X
2.c.6. ...	Perimeter lighting for the TLOF or the FATO areas, as appropriate		X	X
2.c.7. ...	Appropriate markings and lighting to allow movement from the area to another part of the landing facility, if appropriate		X	X
2.c.8. ...	Representative markings, lighting, and signage, including a windsock that gives appropriate wind cues		X	X
2.c.9. ...	Appropriate markings, lighting, and signage necessary for position identification, and to allow movement from the landing area to another part of the landing facility.		X	X
2.c.10.	Representative moving and static ground traffic (e.g., vehicular and aircraft), including the ability to present surface hazards (e.g., conflicting traffic, vehicular or aircraft, on or approaching the landing area).		X	X
2.c.11.	Portrayal of landing surface contaminants, including lighting reflections when wet and partially obscured lights when snow is present, or suitable alternative effects.		X	X
2.d.	All of the following three (3) hazards must be presented in a combination of the three (3) non-airport landing areas (described in item 2.a.2.) and each of these non-airport landing areas must have at least one of the following hazards:			
2.d.1. ...	Other airborne traffic		X	X
2.d.2. ...	Buildings, trees, or other vertical obstructions in the immediate landing area		X	X

TABLE C3B.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<< QPS requirements>>>

Number	Visual scene content requirements for qualification at the stated level Class I visual scenes/visual models	Simulator level		
		B	C	D
2.d.3. ...	Suspended wires in the immediate landing area		X	X
2.e.	Airport applications. Each airport must have the following:			
2.e.1. ...	At least one runway designated as ''in-use,'' appropriately marked and capable of being lighted fully		X	X
2.e.2. ...	Runway threshold elevations and locations must be modeled to provide sufficient correlation with helicopter systems (e.g., HGS, GPS, altimeter); slopes in runways, taxiways, and ramp areas may not cause distracting or unrealistic effects, including pilot eye-point height variation.		X	X
2.e.3. ...	Appropriate approach lighting systems and airfield lighting for a VFR circuit and landing, non-precision approaches and landings, and precision approaches and landings, as appropriate.		X	X
2.e.4. ...	Representative taxiway lights			X
3.	**Visual scene management** The following is the minimum visual scene management requirements for simulators at the NZFT and ZFT levels.			
3.a.	Runway and helicopter landing area approach lighting must fade into view in accordance with the environmental conditions set in the simulator.	X	X	X
3.b.	The direction of strobe lights, approach lights, runway edge lights, visual landing aids, runway centerline lights, threshold lights, touchdown zone lights, and TLOF or FATO lights must be replicated.	X	X	X
4.	**Visual feature recognition** The following are the minimum distances at which runway features must be visible for simulators at the NZFT and ZFT simulator levels. Distances are measured from runway threshold or a helicopter landing area to a helicopter aligned with the runway or helicopter landing area on an extended 3° glide-slope in simulated meteorological conditions. For circling approaches, all tests apply to the runway used for the initial approach and to the runway of intended landing.			
4.a.	For runways: runway definition, strobe lights, approach lights, and runway edge lights from 5 sm (8 km) of the runway threshold.	X	X	X
4.b.	For runways: centerline lights and taxiway definition from 3 sm (5 km)	X	X	X
4.c.	For runways: Visual Approach Aid lights (VASI or PAPI) from 3 sm (5 km) of the threshold	X	X	X
4.d.	For runways: Visual Approach Aid lights (VASI or PAPI) from 5 sm (8 km) of the threshold		X	X
4.e.	For runways: runway threshold lights and touchdown zone lights from 2 sm (3 km)	X	X	X
4.f.	For runways and helicopter landing areas: markings within range of landing lights for night/twilight scenes and the surface resolution test on daylight scenes, as required.	X	X	X
4.g.	For circling approaches, the runway of intended landing and associated lighting must fade into view in a non-distracting manner.	X	X	X
4.h.	For helicopter landing areas: landing direction lights and raised FATO lights from 1 sm (1.5 km)	X	X	X
4.i.	For helicopter landing areas: Flush mounted FATO lights, TOFL lights, and the lighted windsock from 0.5 sm (750 m)			X
4.j.	Hover taxiway lighting (yellow/blue/yellow cylinders) from TOFL area			X
5.	**Airport or Helicopter Landing Area Model Content** The following prescribes the minimum requirements for an airport/helicopter landing area visual model and identifies other aspects of the environment that must correspond with that model for simulators at Level B, Level C, and Level D. For circling approaches, all tests apply to the runway used for the initial approach and to the runway of intended landing. If all runways or landing areas in a visual model used to meet the requirements of this attachment are not designated as ''in use,'' then the ''in use'' runways/landing areas must be listed on the Statement of Qualification (e.g., KORD, Rwys 9R, 14L, 22R). Models of airports or helicopter landing areas with more than one runway or landing area must have all significant runways or landing areas not ''in-use'' visually depicted for airport runway/landing area recognition purposes. The use of white or off-white light strings that identify the runway or landing area for twilight and night scenes are acceptable for this requirement; and rectangular surface depictions are acceptable for daylight scenes. A visual system's capabilities must be balanced between providing visual models with an accurate representation of the airport and a realistic representation of the surrounding environment. Each runway or helicopter landing area designated as an ''in-use'' runway or area must include the following detail that is either modeled using airport/heliport pictures, construction drawings and maps, U.S. National Imagery and Mapping Agency data, or other data, or modeled in accordance with published regulatory material.			
5.a.	The surface and markings for each ''in-use'' runway or helicopter landing area must include the following:			

TABLE C3B.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

Number	Visual scene content requirements for qualification at the stated level Class I visual scenes/visual models	Simulator level		
		B	C	D
5.a.1. ...	For airports: runway threshold markings, runway numbers, touchdown zone markings, fixed distance markings, runway edge markings, and runway centerline stripes.	X	X	X
5.a.2. ...	For helicopter landing areas: markings for standard heliport identification (“H”) and TOFL, FATO, and safety areas	X	X	X
5.b.	The lighting for each “in-use” runway or helicopter landing area must include the following:			
5.b.1. ...	For airports: runway approach, threshold, edge, end, centerline (if applicable), touchdown zone (if applicable), leadoff, and visual landing aid lights or light systems for that runway.	X	X	X
5.b.2. ...	For helicopter landing areas: landing direction, raised and flush FATO, TOFL, windsock lighting	X	X	X
5.c.	The taxiway surface and markings associated with each “in-use” runway or helicopter landing area must include the following:			
5.c.1. ...	For airports: taxiway edge, centerline (if appropriate), runway hold lines, and ILS critical area(s)	X	X	X
5.c.2. ...	For helicopter landing areas: taxiways, taxi routes, and aprons	X	X	X
5.d.	The taxiway lighting associated with each “in-use” runway or helicopter landing area must include the following:			
5.d.1. ...	For airports: runway edge, centerline (if appropriate), runway hold lines, ILS critical areas	X	X	X
5.d.2. ...	For helicopter landing areas: taxiways, taxi routes, and aprons	X	X	X
5.d.3. ...	For airports: taxiway lighting of correct color			X
5.e.	Airport signage associated with each “in-use” runway or helicopter landing area must include the following:			
5.e.1. ...	For airports: signs for runway distance remaining, intersecting runway with taxiway, and intersecting taxiway with taxiway.	X	X	X
5.e.2. ...	For helicopter landing areas: as may be appropriate for the model used	X	X	X
5.f.	Required visual model correlation with other aspects of the airport or helicopter landing environment simulation:			
5.f.1.	The airport or helicopter landing area model must be properly aligned with the navigational aids that are associated with operations at the “in-use” runway or helicopter landing area.	X	X	X
5.f.2.	The simulation of runway or helicopter landing area contaminants must be correlated with the displayed runway surface and lighting where applicable.		X	X
6.	**Correlation with helicopter and associated equipment** The following are the minimum correlation comparisons that must be made for simulators at Level B, Level C, and Level D.			
6.a.	Visual system compatibility with aerodynamic programming	X	X	X
6.b.	Visual cues to assess sink rate and depth perception during landings	X	X	X
6.c.	Accurate portrayal of environment relating to flight simulator attitudes	X	X	X
6.d.	The visual scene must correlate with integrated helicopter systems, where fitted (e.g., terrain, traffic and weather avoidance systems and Head-up Guidance System (HGS)).	X	X	X
6.e.	Representative visual effects for each visible, own-ship, helicopter external light(s)	X	X	X
6.f.	The effect of rain removal devices		X	X
7.	**Scene quality** The following are the minimum scene quality tests that must be conducted for simulators at Level B, Level C, and Level D.			
7.a.	Surfaces and textural cues must be free from apparent quantization (aliasing)		X	X
7.b.	System capable of portraying full color realistic textural cues		X	X
7.c.	The system light points must be free from distracting jitter, smearing or streaking	X	X	X
7.d.	Demonstration of occulting through each channel of the system in an operational scene	X	X	X

TABLE C3B.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<< QPS requirements>>>

Number	Visual scene content requirements for qualification at the stated level Class I visual scenes/visual models	Simulator level		
		B	C	D
7.e.	Demonstration of a minimum of ten levels of occulting through each channel of the system in an operational scene		X	X
7.f.	System capable of providing focus effects that simulate rain		X	X
7.g.	System capable of providing focus effects that simulate light point perspective growth		X	X
7.h.	Runway light controls capable of six discrete light steps (0–5)	X	X	X
8.	**Environmental effects** The following are the minimum environmental effects that must be available in simulators at Level B, Level C, and Level D.			
8.a.	The displayed scene corresponding to the appropriate surface contaminants and include appropriate lighting reflections for wet, partially obscured lights for snow, or alternative effects.			X
8.b.	Special weather representations which include:			
8.b.1. ...	The sound, motion and visual effects of light, medium and heavy precipitation near a thunderstorm on take-off, approach, and landings at and below an altitude of 2,000 ft (600 m) above the surface and within a radius of 10 sm (16 km) from the airport or helicopter landing area.			X
8.b.2. ...	One airport or helicopter landing area with a snow scene to include terrain snow and snow-covered surfaces			X
8.c.	In-cloud effects such as variable cloud density, speed cues and ambient changes		X	X
8.d.	The effect of multiple cloud layers representing few, scattered, broken and overcast conditions giving partial or complete obstruction of the ground scene.		X	X
8.e.	Visibility and RVR measured in terms of distance. Visibility/RVR checked at 2,000 ft (600 m) above the airport or helicopter landing area and at two heights below 2,000 ft with at least 500 ft of separation between the measurements. The measurements must be taken within a radius of 10 sm (16 km) from the airport or helicopter landing area.	X	X	X
8.f.	Patchy fog giving the effect of variable RVR			X
8.g.	Effects of fog on airport lighting such as halos and defocus		X	X
8.h.	Effect of own-ship lighting in reduced visibility, such as reflected glare, including landing lights, strobes, and beacons ...		X	X
8.i.	Wind cues to provide the effect of blowing snow or sand across a dry runway or taxiway selectable from the instructor station.			X
8.j.	''White-out'' or ''Brown-out'' effects due to rotor downwash beginning at a distance above the ground equal to the rotor diameter.			X
9.	**Instructor control of the following:** The following are the minimum instructor controls that must be available in simulators at the NZFT and ZFT simulator levels.			
9.a.	Environmental effects, e.g. cloud base, cloud effects, cloud density, visibility in statute miles/kilometers and RVR in feet/meters.	X	X	X
9.b.	Airport or helicopter landing area selection	X	X	X
9.c.	Airport or helicopter landing area lighting, including variable intensity	X	X	X
9.d.	Dynamic effects including ground and flight traffic		X	X

End QPS Requirement

Begin Information

10.	An example of being able to combine two airport models to achieve two ''in-use'' runways: One runway designated as the ''in-use'' runway in the first model of the airport, and the second runway designated as the ''in-use'' runway in the second model of the same airport. For example, the clearance is for the ILS approach to Runway 27, Circle to Land on Runway 18 right. Two airport visual models might be used: the first with Runway 27 designated as the ''in use'' runway for the approach to runway 27, and the second with Runway 18 Right designated as the ''in use'' runway. When the pilot breaks off the ILS approach to runway 27, the instructor may change to the second airport visual model in which runway 18 Right is designated as the ''in use'' runway, and the pilot would make a visual approach and landing. This process is acceptable to the FAA as long as the temporary interruption due to the visual model change is not distracting to the pilot.

TABLE C3B.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<< QPS requirements>>>

Number	Visual scene content requirements for qualification at the stated level Class I visual scenes/visual models	Simulator level		
		B	C	D
11.	Sponsors are not required to provide every detail of a runway, but the detail that is provided should be correct within reasonable limits.			

End Information

TABLE C3C.—FUNCTIONS AND SUBJECTIVE TESTS

<<<QPS requirements>>>

Number	Visual scene content additional visual models beyond minimum required for qualification Class II visual scenes/visual models	Simulator level		
		B	C	D
This table specifies the minimum airport or helicopter landing area visual model content and functionality necessary to add visual models to a simulator's visual model library (i.e., beyond those necessary for qualification at the stated level) without the necessity of further involvement of the NSPM or TPAA.				
1.	**Visual scene management** The following is the minimum visual scene management requirements for simulators at Levels B, C, and D.			
1.a.	The installation and direction of the following lights must be replicated for the ''in-use'' surface:			
1.a.1.	For ''in-use'' runways: Strobe lights, approach lights, runway edge lights, visual landing aids, runway centerline lights, threshold lights, and touchdown zone lights.	X	X	X
1.a.2.	For ''in-use'' helicopter landing areas: Ground level TLOF perimeter lights, elevated TLOF perimeter lights (if applicable), Optional TLOF lights (if applicable), ground FATO perimeter lights, elevated TLOF lights (if applicable), landing direction lights.	X	X	X
2.	**Visual feature recognition** The following are the minimum distances at which runway or landing area features must be visible for simulators at Level B, C, and D. Distances are measured from runway threshold or a helicopter landing area to an aircraft aligned with the runway or helicopter landing area on a 3° glide-slope from the aircraft to the touchdown point, in simulated meteorological conditions. For circling approaches, all tests apply to the runway used for the initial approach and to the runway of intended landing.			
2.a.	For Runways:			
2.a.1.	Strobe lights, approach lights, and edge lights from 5 sm (8 km) of the threshold	X	X	X
2.a.2.	Centerline lights and taxiway definition from 3 sm (5 km)	X	X	X
2.a.3.	Visual Approach Aid lights (VASI or PAPI) from 3 sm (5 km) of the threshold	X	X	X
2.a.4.	Visual Approach Aid lights (VASI or PAPI) from 5 sm (8 km) of the threshold	X	X	X
2.a.5.	Threshold lights and touchdown zone lights from 2 sm (3 km)	X	X	X
2.a.6.	Markings within range of landing lights for night/twilight (dusk) scenes and as required by the surface resolution test on daylight scenes.	X	X	X
2.a.7.	For circling approaches, the runway of intended landing and associated lighting must fade into view in a non-distracting manner.	X	X	X
2.b.	For Helicopter landing areas:			
2.b.1.	Landing direction lights and raised FATO lights from 1 sm (1.5 km)	X	X	X
2.b.2.	Flush mounted FATO lights, TOFL lights, and the lighted windsock from 0.5 sm (750 m)		X	X
2.b.3.	Hover taxiway lighting (yellow/blue/yellow cylinders) from TOFL area		X	X
2.b.4.	Markings within range of landing lights for night/twilight (dusk) scenes and as required by the surface resolution test on daylight scenes.	X	X	X
3.	**Airport or Helicopter Landing Area Model Content**			

TABLE C3C.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

Number	Visual scene content additional visual models beyond minimum required for qualification Class II visual scenes/visual models	Simulator level		
		B	C	D
	The following prescribes the minimum requirements for what must be provided in an airport visual model and identifies other aspects of the airport environment that must correspond with that model for simulators at Level B, C, and D. The detail must be modeled using airport pictures, construction drawings and maps, or other data, or modeled in accordance with published regulatory material; however, this does not require that airport or helicopter landing area models contain details that are beyond the designed capability of the currently qualified visual system. For circling approaches, all requirements of this section apply to the runway used for the initial approach and to the runway of intended landing.			
3.a.	The surface and markings for each ''in-use'' runway or helicopter landing area must include the following:			
3.a.1.	For airports: Runway threshold markings, runway numbers, touchdown zone markings, fixed distance markings, runway edge markings, and runway centerline stripes.	X	X	X
3.a.2.	For helicopter landing areas: Standard heliport marking (''H''), TOFL, FATO, and safety areas	X	X	X
3.b.	The lighting for each ''in-use'' runway or helicopter landing area must include the following:			
3.b.1.	For airports: Runway approach, threshold, edge, end, centerline (if applicable), touchdown zone (if applicable), leadoff, and visual landing aid lights or light systems for that runway.	X	X	X
3.b.2.	For helicopter landing areas: Landing direction, raised and flush FATO, TOFL, windsock lighting	X	X	X
3.c.	The taxiway surface and markings associated with each ''in-use'' runway or helicopter landing area must include the following:			
3.c.1.	For airports: Taxiway edge, centerline (if appropriate), runway hold lines, and ILS critical area(s)	X	X	X
3.c.2.	For helicopter landing areas: Taxiways, taxi routes, and aprons	X	X	X
3.d.	The taxiway lighting associated with each ''in-use'' runway or helicopter landing area must include the following:			
3.d.1.	For airports: Runway edge, centerline (if appropriate), runway hold lines, ILS critical areas	X	X	X
3.d.2.	For helicopter landing areas: Taxiways, taxi routes, and aprons	X	X	X
3.d.3.	For airports: Taxiway lighting of correct color			X
4.	**Required visual model correlation with other aspects of the airport environment simulation** The following are the minimum visual model correlation tests that must be conducted for simulators at the NZFT and ZFT simulator levels.			
4.a.	The airport model must be properly aligned with the navigational aids that are associated with operations at the ''in-use'' runway.	X	X	X
4.b.	Slopes in runways, taxiways, and ramp areas must not cause distracting or unrealistic effects	X	X	X
5.	**Correlation with helicopter and associated equipment** The following are the minimum correlation comparisons that must be made for simulators at Level B, C, and D.			
5.a.	Visual system compatibility with aerodynamic programming	X	X	X
5.b.	Accurate portrayal of environment relating to flight simulator attitudes	X	X	X
5.c.	Visual cues to assess sink rate and depth perception during landings	X	X	X
6.	**Scene quality** The following are the minimum scene quality tests that must be conducted for simulators at Level B, C, and D.			
6.a.	Light points free from distracting jitter, smearing or streaking	X	X	X
6.b.	Surfaces and textural cues free from apparent quantization (aliasing)		X	X
6.c.	Correct color and realistic textural cues			X
7.	**Instructor controls of the following:** The following are the minimum instructor controls that must be available in simulators at the NZFT and ZFT simulator levels.			
7.a.	Environmental effects, e.g., cloud base (if used), cloud effects, cloud density, visibility in statute miles/kilometers and RVR in feet/meters.	X	X	X

TABLE C3C.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Visual scene content additional visual models beyond minimum required for qualification Class II visual scenes/visual models	Simulator level		
		B	C	D
7.b.	Airport/Heliport selection	X	X	X
7.c.	Airport lighting including variable intensity	X	X	X
7.d.	Dynamic effects including ground and flight traffic		X	X

End QPS Requirements

Begin Information

8.	Sponsors are not required to provide every detail of a runway or helicopter landing area, but the detail that is provided must be correct within the capabilities of the system.	X	X	X

End Information

TABLE C3D.—FUNCTIONS AND SUBJECTIVE TESTS

<<<QPS requirements>>>

Number	Motion system effects	Simulator level			Information
		B	C	D	
This table specifies motion effects that are required to indicate the threshold at which a flight crewmember must be able to recognize an event or situation. Where applicable, flight simulator pitch, side loading and directional control characteristics must be representative of the helicopter.					
1.	**Runway rumble, oleo deflection, ground speed, uneven runway, runway and taxiway centerline light characteristics:** Procedure: After the helicopter has been pre-set to the takeoff position and then released, taxi at various speeds with a smooth runway and note the general characteristics of the simulated runway rumble effects of oleo deflections. Repeat the maneuver with a runway roughness of 50%, then with maximum roughness. The associated motion vibrations should be affected by ground speed and runway roughness.	X	X	X	If time permits, different gross weights can also be selected as this may also affect the associated vibrations depending on helicopter type. The associated motion effects for the above tests should also include an assessment of the effects of rolling over centerline lights, surface discontinuities of uneven runways, and various taxiway characteristics.
2.	**Friction Drag from Skid-type Landing Gear:** Procedure: Perform a running takeoff or a running landing and note an increase in a fuselage vibration (as opposed to rotor vibration) due to the friction of dragging the skid along the surface. This vibration will lessen as the ground speed decreases.		X	X	
3.	**Rotor Out-of-Track and/or Out-of-Balance condition:** Procedure: Select the malfunction or condition from the IOS. Start the engine(s) normally and check for an abnormal vibration for an Out-of-Track condition and check for an abnormal vibration for an Out-of-Balance condition.	X	X	X	Does not require becoming airborne. The abnormal vibration for Out-of-Track and Out-of-Balance conditions should be recognized in the frequency range of the inverse of the period for each; i.e., 1/P for vertical vibration, and 1/P for lateral vibration.
4.	**Bumps associated with the landing gear:** Procedure: Perform a normal take-off paying special attention to the bumps that could be perceptible due to maximum oleo extension after lift-off.	X	X	X	When the landing gear is extended or retracted, motion bumps can be felt when the gear locks into position.
5.	**Buffet during extension and retraction of landing gear:** Procedure: Operate the landing gear. Check that the motion cues of the buffet experienced represent the actual helicopter.	X	X	X	
6.	**Failure of Dynamic Vibration Absorber or similar system as appropriate for the helicopter (e.g., droop stop or static stop):**	X	X	X	

TABLE C3D.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

Number	Motion system effects	Simulator level			Information
		B	C	D	
	Procedure: May be accomplished any time the rotor is engaged. Select the appropriate failure at the IOS, note an appropriate increase in vibration and check that the vibration intensity and frequency increases with an increase in RPM and an increase in collective application.				
7.	**Tail Rotor Drive Failure:** Procedure: With the engine(s) running and the rotor engaged—select the malfunction and note the immediate increase of medium frequency vibration.	X	X	X	The tail rotor operates in the medium frequency range, normally estimated by multiplying the tail rotor gear box ratio by the main rotor RPM. The failure can be recognized by an increase in the vibrations in this frequency range.
8.	**Touchdown cues for main and nose gear:** Procedure: Conduct several normal approaches with various rates of descent. Check that the motion cues for the touchdown bumps for each descent rate are representative of the actual helicopter.	X	X	X	
9.	**Tire failure dynamics:** Procedure: Simulate a single tire failure and a multiple tire failure.		X	X	The pilot may notice some yawing with a multiple tire failure selected on the same side. This should require the use of the pedal to maintain control of the helicopter. Dependent on helicopter type, a single tire failure may not be noticed by the pilot and may not cause any special motion effect. Sound or vibration may be associated with the actual tire losing pressure.
10.	**Engine malfunction and engine damage:** Procedure: The characteristics of an engine malfunction as prescribed in the malfunction definition document for the particular flight simulator must describe the special motion effects felt by the pilot. The associated engine instruments should also vary according to the nature of the malfunction.	X	X	X	
11.	**Tail boom strikes:** Procedure: Tail-strikes can be checked by over-rotation of the helicopter at a quick stop or autorotation to the ground.	X	X	X	The motion effect should be felt as a noticeable nose down pitching moment.
12.	**Settling with Power:** Procedure: To enter the maneuver, reduce power below hover power. Hold altitude with aft cyclic until the airspeed approaches 20 knots. Then allow the sink rate to increase to 300 feet per minute or more as the attitude is adjusted to obtain an airspeed of less than 10 knots.		X	X	When the aircraft begins to shudder, the application of additional up collective increases the vibration and sink rate.
13.	**Retreating Blade Stall:** Procedure: To enter the maneuver, increase forward airspeed; the effect should be recognized when the forward speed is equal to the speed of the retreating blade. The onset can be felt through the development of a low frequency vibration, pitching up of the nose, and a roll in the direction of the retreating blade. High weight, low rotor RPM, high density altitude, turbulence or steep, abrupt turns are all conducive to retreating blade stall at high forward airspeeds.		X	X	Correct recovery from retreating blade stall requires the collective to be lowered first, which reduces blade angles and the angle of attack. Aft cyclic can then be used to slow the helicopter.

TABLE C3D.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

<<<QPS requirements>>>

Number	Motion system effects	Simulator level			Information
		B	C	D	
14.	**Translational Lift Effects:** Procedure: From a stabilized in-ground-effect (IGE) Hover begin a forward acceleration. When passing through the effective translational lift range, the noticeable effect will be a nose pitch-up, increase in the rate of climb, and a temporary increase vibration level (in some cases this vibration may be pronounced). This effect is experienced again upon deceleration through the appropriate speed range. During deceleration, the pitch and rate of climb will have the reverse effect, but there will be a similar, temporary increase in vibration level.	X	X	X	

TABLE C3E.—FUNCTIONS AND SUBJECTIVE TESTS

<<<QPS requirements>>>

Number	Sound system	Simulator level		
		B	C	D
The following checks are performed during a normal flight profile, motion system ON.				
1.	Precipitation		X	X
2.	Rain removal equipment		X	X
3.	Helicopter noises used by the pilot for normal helicopter operation		X	X
4.	Abnormal operations for which there are associated sound cues, including engine malfunctions, landing gear or tire malfunctions, tail boom.		X	X
5.	Sound of a crash when the flight simulator is landed in excess of limitations		X	X

TABLE C3F.—FUNCTIONS AND SUBJECTIVE TESTS

<<<QPS requirements>>>

Number	Special effects	Simulator level		
		B	C	D
This table specifies the minimum special effects necessary for the specified simulator level.				
1.	**Braking Dynamics:** Representations of the dynamics of brake failure (flight simulator pitch, side-loading, and directional control characteristics representative of the helicopter), including antiskid and decreased brake efficiency due to high brake temperatures (based on helicopter related data), sufficient to enable pilot identification of the problem and implementation of appropriate procedures.		X	X
2.	**Effects of Airframe and Engine Icing:** **Required only for those helicopters authorized for operations in known icing conditions.** Procedure: With the simulator airborne, in a clean configuration, nominal altitude and cruise airspeed, autopilot on and auto-throttles off, engine and airfoil anti-ice/de-ice systems deactivated; activate icing conditions at a rate that allows monitoring of simulator and systems response. Icing recognition will include an increase in gross weight, airspeed decay, change in simulator pitch attitude, change in engine performance indications (other than due to airspeed changes), and change in data from pitot/static system, or rotor out-of-track/balance. Activate heating, anti-ice, or de-ice systems independently. Recognition will include proper effects of these systems, eventually returning the simulated helicopter to normal flight.		X	X

TABLE C3G.—FUNCTIONS AND SUBJECTIVE TESTS

<<<QPS requirements>>>

Number	Instructor operating station (IOS) (As appropriate)	Simulator level		
		B	C	D
Functions in this table are subject to evaluation only if appropriate for the helicopter or the system is installed on the specific simulator.				

TABLE C3G.—FUNCTIONS AND SUBJECTIVE TESTS—Continued

Number	Instructor operating station (IOS) (As appropriate)	Simulator level		
		B	C	D
1.	**Simulator Power Switch(es)**	X	X	X
2.	**Helicopter conditions**			
2.a.	Gross weight, center of gravity, fuel loading and allocation	X	X	X
2.b.	Helicopter systems status	X	X	X
2.c.	Ground crew functions	X	X	X
3.	**Airports/Heliports**			
3.a.	Number and selection	X	X	X
3.b.	Runway or landing area selection	X	X	X
3.c.	Landing surface conditions (rough, smooth, icy, wet, dry, snow)	X	X	X
3.d.	Preset positions	X	X	X
3.e.	Lighting controls	X	X	X
4.	**Environmental controls**			
4.a	Visibility (statute miles/kilometers)	X	X	X
4.b.	Runway visual range (in feet/meters)	X	X	X
4.c.	Temperature	X	X	X
4.d.	Climate conditions	X	X	X
4.e.	Wind speed and direction	X	X	X
4.f.	Windshear	.....	X	X
5.	**Helicopter system malfunctions** (Insertion/deletion)	X	X	X
6.	**Locks, Freezes, and Repositioning**			
6.a.	Problem (all) freeze/release	X	X	X
6.b.	Position (geographic) freeze/release	X	X	X
6.c.	Repositioning (locations, freezes, and releases)	X	X	X
6.d.	Ground speed control	X	X	X
7.	**Remote IOS**	X	X	X
8.	**Sound Controls.** On/off/adjustment	X	X	X
9.	**Motion/Control Loading System**			
9.a.	**On/off/emergency stop.**	X	X	X
10.	**Observer Seats/Stations.** Position/Adjustment/Positive restraint system.	X	X	X

Attachment 4 to Appendix C to Part 60—Sample Documents

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Title of Sample

Figure C4A Sample Letter, Request for Initial, Upgrade, or Reinstatement Evaluation.
Figure C4B Attachment: FSTD Information Form
Figure C4C Sample Qualification Test Guide Cover Page
Figure C4D Sample Statement of Qualification—Certificate
Figure C4E Sample Statement of Qualification—Configuration List
Figure C4F Sample Statement of Qualification List of Qualified Tasks
Figure C4G Sample Continuing Qualification Evaluation Requirements Page
Figure C4H Sample MQTG Index of Effective FSTD Directives

BILLING CODE 4910–13–P

Attachment 4 to Appendix C to Part 60—
Figure C4A – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
INFORMATION

Date _____

Charles A. Spillner
Manager, National Simulator Program
Federal Aviation Administration
100 Hartsfield Centre Parkway
Suite 400
Atlanta, GA 30354

Dear Mr. Spillner:

RE: Request for Initial/Upgrade Evaluation Date

This is to advise you of our intent to request an (initial or upgrade) evaluation of our (FSTD Manufacturer), (Aircraft Type/Level) Flight Simulation Training Device (FSTD), (FAA ID Number, if previously qualified), located in (City, State) at the (Facility) on (Proposed Evaluation Date). (The proposed evaluation date shall not be more than 180 days following the date of this letter.) The FSTD will be sponsored by (Name of Training Center/Air Carrier), FAA Designator (4 Letter Code). The FSTD will be sponsored as follows; (Select One)

☐ The FSTD will be used within the sponsor's FAA approved training program and placed on the sponsor's Training/Operations Specifications.

☐ The FSTD will be used for dry lease only.

We agree to provide the formal request for the evaluation to your staff as follows: (check one)

☐ For QTG tests run at the factory, not later, than 45 days prior to the proposed evaluation date with the additional "1/3 on-site" tests provided not later than 14 days prior to the proposed evaluation date.

☐ For QTG tests run on-site, not later than 30 days prior to the proposed evaluation date.

We understand that the formal request will contain the following documents:

7. Sponsor's Letter of Request (*Company Compliance Letter*).
8. Principal Operations Inspector (POI) or Training Center Program Manager's (TCPM) endorsement.
9. Complete QTG.

If we are unable to meet the above requirements, we understand this may result in a significant delay, perhaps 45 days or more, in rescheduling and completing the evaluation.

(The sponsor should add additional comments as necessary).

Please contact (Name Telephone and Fax Number of Sponsor's Contact) to confirm the date for this initial evaluation. We understand a member of your National Simulator Program staff will respond to this request within 14 days.

Attachment 4 to Appendix C to Part 60—
Figure C4A – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation

INFORMATION

A copy of this letter of intent has been provided to (Name), the Principal Operations Inspector (POI) and/or Training Center Program Manager (TCPM).

Sincerely,

Attachment: FSTD Information Form
cc: POI/TCPM

Attachment 4 to Appendix C to Part 60—
Figure C4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form
INFORMATION

Date: _____			
Section 1. FSTD Information and Characteristics			
Sponsor Name:	_____	**FSTD Location:**	
Address:	_____ _____	**Physical Address:**	_____ _____
City:	_____	**City:**	_____
State:	_____	**State:**	_____
Country:	_____	**Country:**	_____
ZIP:	_____	**ZIP:**	_____
Manager	_____		
Sponsor ID No: *(Four Letter FAA Designator)*	_____	**Nearest Airport:** *(Airport Designator)*	_____
Type of Evaluation Requested:		☐ **Initial** ☐ **Upgrade** ☐ **Recurrent** ☐ **Special** ☐ **Reinstatement**	
Qualification Basis: _____	☐ **A**	☐ **B**	☐ **Interim C** ☐ **C** ☐ **D**
	☐ **6**	☐ **7**	☐ **Provisional Status**
Initial Qualification: (If Applicable)	**Date:** _____ **Level** _____	**Manufacturer's Identification/Serial No:**	_____
Upgrade Qualification: (If Applicable)	**Date:** _____ **Level** _____ MM/DD/YYYY	☐ **eQTG**	
Other Technical Information:			
FAA FSTD ID No: (If Applicable)	_____	**FSTD Manufacturer:**	_____
Convertible FSTD:	☐ **Yes:**	**Date of Manufacture:**	_____ MM/DD/YYYY
Related FAA ID No. (If Applicable)	_____ _____ _____	**Sponsor FSTD ID No:** _____	
Aircraft model/series: _____		**Source of aerodynamic model:** _____	
Engine model(s) and data revision: _____		**Source of aerodynamic doefficient data:** _____	
FMS identification and revision level: _____		**Aerodynamic data revision number:** _____	
Visual system manufacturer/model: _____		**Visual system display:** _____	
Flight control data revision: _____		**FSTD computer(s) identification:** _____	
Motion system manufacturer/type: _____			
National Aviation Authority (NAA): (If Applicable)	_____		_____
NAA FSTD ID No:	_____	**Last NAA Evaluation Date:**	_____
NAA Qualification Level:	_____		
NAA Qualification Basis:	_____		

Attachment 4 to Appendix C to Part 60—
Figure C4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form

INFORMATION

Visual System Manufacturer and Type:	_____	**Motion System Manufacturer and Type:**	_____
Aircraft Make/Model/Series:	_____	**FSTD Seats Available:**	_____

Aircraft Equipment	**ENGINE TYPE(S):** _____	**Flight Instrumentation:** ☐ **EFIS** ☐ **HUD** ☐ **HGS** ☐ **EFVS** ☐ **TCAS** ☐ **GPWS** ☐ **Plain View** ☐ **GPS** ☐ **FMS Type:** _____ ☐ **WX Radar** ☐ **Other:** _____	Engine Instrumentation: ☐ **EICAS** ☐ **FADEC** ☐ **Other:** _____

Airport Models:	3.6.1 _____ *Airport Designator*	3.6.2_____ *Airport Designator*	3.6.3 _____ *Airport Designator*
Circle to Land:	3. 7.1 _____ *Airport Designator*	3. 7.2_____ *Approach*	3. 7.3 _____ *Landing Runway*
Visual Ground Segment	3.8.1 _____ *Airport Designator*	3.8 .2_____ *Approach*	3. 8.3 _____ *Landing Runway*

Section 2. Supplementary Information

FAA Training Program Approval Authority:		☐ **POI** ☐ **TCPM** ☐ **Other:** _____	
Name:	_____	**Office:**	_____
Tel:	_____	**Fax:**	_____
Email:	_____		

FSTD Scheduling Person:			
Name:	_____		
Address 1:	_____	**Address 2**	_____
City:	_____	**State:**	_____
ZIP:	_____	**Email:**	_____
Tel:	_____	**Fax:**	_____

FSTD Technical Contact:			
Name:	_____		
Address 1:	_____	**Address 2**	_____
City:	_____	**State:**	_____
ZIP:	_____	**Email:**	_____
Tel:	_____	**Fax:**	_____

Section 3. Training, Testing and Checking Considerations

Area/Function/Maneuver	Requested	Remarks
Private Pilot - Training / Checks: (142)	☐	_____
Commercial Pilot - Training /Checks:(142)	☐	_____
Multi-Engine Rating - Training / Checks (142)	☐	_____
Instrument Rating -Training / Checks (142)	☐	_____
Type Rating - Training / Checks (135/121/142)	☐	_____
Proficiency Checks (135/121/142)	☐	_____
CAT I: (RVR 2400/1800 ft. DH200 ft)	☐	_____
CAT II: (RVR 1200 ft. DH 100 ft)	☐	_____

Attachment 4 to Appendix C to Part 60—
Figure C4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form

INFORMATION

CAT III * (lowest minimum) _____ RVR _____ ft. * *State CAT III (≤ 700 ft.), CAT IIIb (≤ 150 ft.), or CAT IIIc (0 ft.)*	☐	_____
Circling Approach	☐	_____
Windshear Training:	☐	_____
Windshear Training IAW 121.409(d) (121 Turbojets Only)	☐	_____
Generic Unusual Attitudes and Recoveries within the Normal Flight Envelope	☐	_____
Specific Unusual Attitudes Recoveries	☐	_____
Auto-coupled Approach/Auto Go Around	☐	_____
Auto-land / Roll Out Guidance	☐	_____
TCAS/ACAS I / II	☐	_____
WX-Radar	☐	_____
HUD	☐	_____
HGS	☐	
EFVS	☐	
Future Air Navigation Systems	☐	_____
GPWS / EGPWS	☐	_____
ETOPS Capability	☐	_____
GPS	☐	_____
SMGCS	☐	_____
Helicopter Slope Landings	☐	_____
Helicopter External Load Operations	☐	_____
Helicopter Pinnacle Approach to Landings	☐	_____
Helicopter Night Vision Maneuvers	☐	_____
Helicopter Category A Takeoffs	☐	_____

Attachment 4 to Appendix C to Part 60—
Figure C4C – Sample Qualification Test Guide Cover Page
INFORMATION

SPONSOR NAME

SPONSOR ADDRESS

FAA QUALIFICATION TEST GUIDE

(SPECIFIC Helicopter MODEL)
for example
Farnsworth Z-100

(Type of Simulator)

(Simulator Identification Including Manufacturer, Serial Number, Visual System Used)

(Simulator Level)

(Qualification Performance Standard Used)

(Simulator Location)

FAA Initial Evaluation

Date: _____

_____ Date: _____
(Sponsor)

_____ Date: _____
Manager, National
Simulator Program, FAA

Attachment 4 to Appendix C to Part 60—
Figure C4D – Sample Statement of Qualification - Certificate

INFORMATION

Federal Aviation Administration
National Simulator Program

Certificate of Qualification

This is to certify that representatives of the National Simulator Program Completed an evaluation of the

Go-Fast Airlines
Farnsworth Z-100 Full Flight Simulator
FAA Identification Number 0999

And pursuant to 14 CFR Part 60 found it to meet its original qualification basis, AC 120-63 (MM/DD/YY)

The Master Qualification Test Guide and the attached Configuration List and List of Qualified Tasks Provide the Qualification Basis for this device to operate at

Level D

Until April 30, 2010

Unless sooner rescinded or extended by the National Simulator Program Manager

March 15, 2009	*C. Nordlie*
(date)	(for the NSPM)

Attachment 4 to Appendix C to Part 60—
Figure C4E – Sample Statement of Qualification; Configuration List

INFORMATION

STATEMENT of QUALIFICATION
CONFIGURATION LIST

Date: ____			
Section 1. FSTD Information and Characteristics			
Sponsor Name:	____	**FSTD Location:**	
Address:	____ ____	**Physical Address:**	____ ____
City:	____	**City:**	____
State:	____	**State:**	____
Country:	____	**Country:**	____
ZIP:	____	**ZIP:**	____
Manager	____		
Sponsor ID No: *(Four Letter FAA Designator)*	____	**Nearest Airport:** *(Airport Designator)*	____
Type of Evaluation Requested:		☐ **Initial** ☐ **Upgrade** ☐ **Recurrent** ☐ **Special** ☐ **Reinstatement**	
Qualification Basis: ____	☐ **A**	☐ **B**	☐ **Interim C** ☐ **C** ☐ **D**
	☐ **6**	☐ **7**	☐ **Provisional Status**
Initial Qualification: (If Applicable)	**Date:** ____ **Level** ____	**Manufacturer's Identification/Serial No:**	____
Upgrade Qualification: (If Applicable)	**Date:** ____ **Level** ____ MM/DD/YYYY	☐ **eQTG**	
Other Technical Information:			
FAA FSTD ID No: (If Applicable)	____	**FSTD Manufacturer:**	____
Convertible FSTD:	☐ **Yes:**	**Date of Manufacture:**	____ MM/DD/YYYY
Related FAA ID No. (If Applicable)	____ ____ ____	**Sponsor FSTD ID No:** ____	
Aircraft model/series: ____		**Source of aerodynamic model:** ____	
Engine model(s) and data revision: ____		**Source of aerodynamic doefficient data:** ____	
FMS identification and revision level: ____		**Aerodynamic data revision number:** ____	
Visual system manufacturer/model: ____		**Visual system display:** ____	
Flight control data revision: ____		**FSTD computer(s) identification:** ____	
Motion system manufacturer/type: ____			
National Aviation Authority (NAA): (If Applicable)	____		____
NAA FSTD ID No:	____	**Last NAA Evaluation Date:**	____
NAA Qualification Level:	____		
NAA Qualification Basis:	____		

Attachment 4 to Appendix C to Part 60—
Figure C4E – Sample Statement of Qualification; Configuration List

INFORMATION

Visual System Manufacturer and Type:	_____	**Motion System Manufacturer and Type:**	_____
Aircraft Make/Model/Series:	_____	**FSTD Seats Available:**	_____

Aircraft Equipment	**ENGINE TYPE(S):** _____	**Flight Instrumentation:** ☐ **EFIS** ☐ **HUD** ☐ **HGS** ☐ **EFVS** ☐ **TCAS** ☐ **GPWS** ☐ **Plain View** ☐ **GPS** ☐ **FMS Type:** _____ ☐ **WX Radar** ☐ **Other:** _____	Engine Instrumentation: ☐ **EICAS** ☐ **FADEC** ☐ **Other:** _____

Airport Models:	3.6.1 _____ *Airport Designator*	3.6.2_____ *Airport Designator*	3.6.3 _____ *Airport Designator*
Circle to Land:	3. 7.1 _____ *Airport Designator*	3. 7.2_____ *Approach*	3. 7.3 _____ *Landing Runway*
Visual Ground Segment	3.8.1 _____ *Airport Designator*	3.8 .2_____ *Approach*	3. 8.3 _____ *Landing Runway*

Section 2. Supplementary Information

FAA Training Program Approval Authority:		☐ **POI** ☐ **TCPM** ☐ **Other:** _____	
Name:	_____	**Office:**	_____
Tel:	_____	**Fax:**	_____
Email:	_____		

FSTD Scheduling Person:			
Name:	_____		
Address 1:	_____	**Address 2**	_____
City:	_____	**State:**	_____
ZIP:	_____	**Email:**	_____
Tel:	_____	**Fax:**	_____

FSTD Technical Contact:			
Name:	_____		
Address 1:	_____	**Address 2**	_____
City:	_____	**State:**	_____
ZIP:	_____	**Email:**	_____
Tel:	_____	**Fax:**	_____

Section 3. Training, Testing and Checking Considerations

Area/Function/Maneuver	Requested	Remarks
Private Pilot - Training / Checks: (142)	☐	_____
Commercial Pilot - Training /Checks:(142)	☐	_____
Multi-Engine Rating - Training / Checks (142)	☐	_____
Instrument Rating -Training / Checks (142)	☐	_____
Type Rating - Training / Checks (135/121/142)	☐	_____
Proficiency Checks (135/121/142)	☐	_____
CAT I: (RVR 2400/1800 ft. DH200 ft)	☐	_____
CAT II: (RVR 1200 ft. DH 100 ft)	☐	_____

Attachment 4 to Appendix C to Part 60—
Figure C4E – Sample Statement of Qualification; Configuration List

INFORMATION

CAT III * (lowest minimum) _____ RVR _____ ft. * *State CAT III (≤ 700 ft.), CAT IIIb (≤ 150 ft.), or CAT IIIc (0 ft.)*	☐	_____
Circling Approach	☐	_____
Windshear Training:	☐	_____
Windshear Training IAW 121.409(d) (121 Turbojets Only)	☐	_____
Generic Unusual Attitudes and Recoveries within the Normal Flight Envelope	☐	_____
Specific Unusual Attitudes Recoveries	☐	_____
Auto-coupled Approach/Auto Go Around	☐	_____
Auto-land / Roll Out Guidance	☐	_____
TCAS/ACAS I / II	☐	_____
WX-Radar	☐	_____
HUD	☐	_____
HGS	☐	
EFVS	☐	
Future Air Navigation Systems	☐	_____
GPWS / EGPWS	☐	_____
ETOPS Capability	☐	_____
GPS	☐	_____
SMGCS	☐	_____
Helicopter Slope Landings	☐	_____
Helicopter External Load Operations	☐	_____
Helicopter Pinnacle Approach to Landings	☐	_____
Helicopter Night Vision Maneuvers	☐	_____
Helicopter Category A Takeoffs	☐	_____

Attachment 4 to Appendix C to Part 60—
Figure C4F – Sample Statement of Qualification – List of Qualified Tasks

INFORMATION

STATEMENT of QUALIFICATION
List of Qualified Tasks
Go Fast Airline Training -- Farnsworth Z-100 -- Level ZFT -- FAA ID# 0999

The FSTD is qualified to perform all of the Maneuvers, Procedures, Tasks, and Functions Listed in Appendix A, Attachment 1, Table A1B, Minimum FSTD Requirements In Effect on [mm/dd/yyyy] except for the following listed Tasks or Functions.

Qualified for all tasks in Table C1B for which the sponsor has requested qualification, except for the following: 6.e. Environmental system. 6.f. Fire detection and extinguisher system. 7.b. In-flight fire and smoke removal. 7.d. Ditching.
Additional tasks for which this FSTD is qualified (i.e., in addition to the list in Table C1B) Enhanced Visual System

Attachment 4 to Appendix C to Part 60—
Figure C4G – Sample Continuing Qualification Evaluation Requirements Page
INFORMATION

Recurrent Evaluation Requirements ***Completed at conclusion of Initial Evaluation***	
Recurrent Evaluations to be conducted each _(fill in)__ months Allotting _____ hours of FTD time. Signed: _____ NSPM / Evaluation Team Leader	Recurrent evaluations are due as follows: _(month)__ and __(month)_ and __(month)_ (enter or strike out, as appropriate) _____ Date

Revision: Based on (enter reasoning):	
Recurrent Evaluations are to be conducted each _(fill in)__ months. Allotting _____ hours. Signed: _____ NSPM Evaluation Team Leader	Recurrent evaluations are due as follows: _(month)__ and __(month)_ and __(month)_ (enter or strike out, as appropriate) _____ Date

Revision: Based on (enter reasoning):	
Recurrent Evaluations are to be conducted each _(fill in)__ months. Allotting _____ hours. Signed: _____ NSPM Evaluation Team Leader	Recurrent evaluations are due as follows: _(month)__ and __(month)_ and __(month)_ (enter or strike out, as appropriate) _____ Date

(Repeat as Necessary)

Index of Effective FSTD Directives Filed in this Section

Notification Number	Received From: (TPAA/NSPM)	Date of Notification	Date of Modification Completion

Continue as Necessary....

BILLING CODE 4910–13–C

Attachment 5 to Appendix C to Part 60—FSTD Directives Applicable to Helicopter Full Flight Simulators

Flight Simulation Training Device (FSTD) Directive (FD)

FSTD Directive Number 1. Applicable to all Full Flight Simulators (FFS), regardless of the original qualification basis and qualification date (original or upgrade), having Class II visual scenes or airport models available.

Federal Aviation Administration (FAA), DOT

This is a retroactive requirement to have all Class II visual scenes or airport models meet current requirements.

SUMMARY: Notwithstanding the authorization listed in paragraph 13b in Appendices A and C, this FSTD Directive (FD) requires each sponsor to ensure that, by [date 1 year after effective date of the final rule], each Class II visual scene or airport model available in an FFS, meets the requirements of 14 CFR part 60, Appendix A, Attachment 3, Table A3C, or Appendix C, Attachment 3, Table C3C, as applicable. The completion of this requirement will not require a report. The fact that the scene or model is available in the FFS is the sponsor's testament that the requirements are met.

DATES: This FD becomes effective on [effective date of the final rule].

FOR FURTHER INFORMATION CONTACT: Ed Cook, Senior Advisor to the Division Manager, Air Transportation Division, AFS–200, 800 Independence Ave, SW., Washington, DC 20591: telephone: (404) 832–4701; fax: (404) 761–8906.

Specific Requirements

1. Part 60 requires that each FSTD be:

a. Sponsored by a person holding or applying for an FAA operating certificate under Part 119, Part 141, or Part 142, or holding or applying for an FAA-approved training program under Part 63, Appendix C, for flight engineers, and

b. Evaluated and issued a Statement of Qualification for a specific FSTD level.

2. Full flight simulators (FFS) also require the installation of a visual system that is capable of providing an out-of-the-flight-deck view of visual scenes or airport models. To be qualified, each FFS must have available for use a minimum number of visual scenes or airport models that have certain features. These are called Class I visual scenes or airport models, the required features of which are listed in Part 60. Additional scenes or models that are beyond those necessary for qualification may also be used for various additional training program applications, including Line Oriented Flight Training, are classified as Class II. However, historically these visual scenes or airport models were not routinely evaluated or required to meet any standardized criteria. This has led to qualified simulators containing visual scenes or airport models being used to meet FAA-approved training, testing, or checking requirements with potentially incorrect or inappropriate visual references.

3. To prevent this from occurring in the future, by [date 1 year after effective date of the final rule], each FSTD sponsor must assure that each Class II visual scene or airport model available in a qualified FFS meets the requirements found in 14 CFR part 60, Appendix A, Attachment 3, Table A3C or Appendix C, Attachment 3, Table C3C, as applicable. These references describe the requirements for visual scene management and the minimum distances from which runway or landing area features must be visible for all levels of simulator. The visual scene or airport model must provide, for each ''in-use runway'' or ''in-use landing area,'' runway or landing area surface and markings, runway or landing area lighting, taxiway surface and markings, and taxiway lighting. Additional requirements include correlation of the visual scenes or airport models with other aspects of the airport environment, correlation of the aircraft and associated equipment, scene quality assessment features, and the extent to which the instructor is able to exercise control of these scenes or models.

4. For circling approaches, all requirements of this section apply to the runway used for the initial approach and to the runway of intended landing.

5. The details in these scenes or models must be developed using airport pictures, construction drawings and maps, or other similar data, or be developed in accordance with published regulatory material. However, this FD does not require that visual scenes or airport models contain details that are beyond the initially designed capability of the visual system, as currently qualified. The recognized limitations to visual systems are as follows:

a. Visual systems not required to have runway numbers as a part of the specific runway marking requirements are:

(1) Link NVS and DNVS.

(2) Novoview 2500 and 6000.

(3) FlightSafety VITAL series up to, and including, VITAL III, but not beyond.

(4) Redifusion SP1, SP1T, and SP2.

b. Visual systems required to display runway numbers only for LOFT scenes are:

(1) FlightSafety VITAL IV.
(2) Redifusion SP3 and SP3T.
(3) Link-Miles Image II.

c. Visual systems not required to have accurate taxiway edge lighting are:
(1) Redifusion SP1.
(2) FlightSafety Vital IV.
(3) Link-Miles Image II and Image IIT.
(4) XKD displays (even though the XKD image generator is capable of generating blue colored lights, the display cannot accommodate that color).

6. A copy of this Directive must be filed in the Master Qualification Test Guide in the designated FSTD Directive Section, and its inclusion must be annotated on the Index of Effective FSTD Directives chart. See Attachment 4, Appendices A through D for a sample MQTG Index of Effective FSTD Directives chart.

Appendix D to Part 60—Qualification Performance Standards for Helicopter Flight Training Devices

Begin Information

This appendix establishes the standards for Helicopter Flight Training Device (FTD) evaluation and qualification at Level 4, Level 5, Level 6, or Level 7. The Flight Standards Service, National Simulator Program Manager (NSPM), is responsible for the development, application, and implementation of the standards contained within this appendix. The procedures and criteria specified in this appendix will be used by the NSPM, or a person or persons assigned by the NSPM when conducting helicopter FTD evaluations.

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1. Introduction
2. Applicability (§§ 60.1 60.2)
3. Definitions (§ 60.3)
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22. Applications, Logbooks, Reports, and Records: Fraud, Falsification, or Incorrect Statements (§ 60.33)
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25. FSTD Qualification on the Basis of a Bilateral Aviation Safety Agreement (BASA) (§ 60.37)
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Attachment 2 to Appendix D to Part 60—Flight Training Device (FTD) Objective Tests
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Attachment 5 to Appendix D to Part 60—FSTD Directives Applicable to Helicopter Flight Training Devices

End Information

1. Introduction

Begin Information

a. This appendix contains background information as well as regulatory and informative material as described later in this section. To assist the reader in determining what areas are required and what areas are permissive, the text in this appendix is divided into two sections: ''QPS Requirements'' and ''Information.'' The QPS Requirements sections contain details regarding compliance with the part 60 rule language. These details are regulatory, but are found only in this appendix. The Information sections contain material that is advisory in nature, and designed to give the user general information about the regulation.

b. Questions regarding the contents of this publication should be sent to the U.S. Department of Transportation, Federal Aviation Administration, Flight Standards Service, National Simulator Program Staff, AFS–205, 100 Hartsfield Centre Parkway, Suite 400, Atlanta, Georgia, 30354. Telephone contact numbers for the NSP are: phone, 404–832–4700; fax, 404–761–8906. The general email address for the NSP office is: *9-aso-avr-sim-team@faa.gov.* The NSP Internet Web Site address is: *http://www.faa.gov/safety/programs_initiatives/aircraft_aviation/nsp/.* On this Web Site you will find an NSP personnel list with telephone and email contact information for each NSP staff member, a list of qualified flight simulation devices, advisory circulars, a description of the qualification process, NSP policy, and an NSP ''In-Works'' section. Also linked from this site are additional information sources, handbook bulletins, frequently asked questions, a listing and text of the Federal Aviation Regulations, Flight Standards Inspector's handbooks, and other FAA links.

c. The NSPM encourages the use of electronic media for all communication, including any record, report, request, test, or statement required by this appendix. The electronic media used must have adequate security provisions and be acceptable to the NSPM. The NSPM recommends inquiries on system compatibility, and minimum system requirements are also included on the NSP Web site.

d. Related Reading References.
(1) 14 CFR part 60.
(2) 14 CFR part 61.
(3) 14 CFR part 63.
(4) 14 CFR part 119.
(5) 14 CFR part 121.
(6) 14 CFR part 125.
(7) 14 CFR part 135.
(8) 14 CFR part 141.
(9) 14 CFR part 142.
(10) Advisory Circular (AC) 120–28C, Criteria for Approval of Category III Landing Weather Minima.
(11) AC 120–29, Criteria for Approving Category I and Category II Landing Minima for part 121 operators.
(12) AC 120–35B, Line Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation.
(13) AC 120–41, Criteria for Operational Approval of Airborne Wind Shear Alerting and Flight Guidance Systems.
(14) AC 120–57A, Surface Movement Guidance and Control System (SMGS).
(15) AC 150/5300–13, Airport Design.
(16) AC 150/5340–1G, Standards for Airport Markings.
(17) AC 150/5340–4C, Installation Details for Runway Centerline Touchdown Zone Lighting Systems.
(18) AC 150/5390–2B, Heliport Design.
(19) AC 150/5340–19, Taxiway Centerline Lighting System.
(20) AC 150/5340–24, Runway and Taxiway Edge Lighting System.
(21) AC 150/5345–28D, Precision Approach Path Indicator (PAPI) Systems.
(22) International Air Transport Association document, ''Flight Simulator Design and Performance Data Requirements,'' as amended.
(23) AC 29–2B, Flight Test Guide for Certification of Transport Category Rotorcraft.
(24) AC 27–1A, Flight Test Guide for Certification of Normal Category Rotorcraft.
(25) International Civil Aviation Organization (ICAO) Manual of Criteria for the Qualification of Flight Simulators, as amended.
(26) Airplane Flight Simulator Evaluation Handbook, Volume I, as amended and Volume II, as amended, The Royal Aeronautical Society, London, UK.
(27) FAA Publication FAA–S–8081 series (Practical Test Standards for Airline Transport Pilot Certificate, Type Ratings, Commercial Pilot, and Instrument Ratings).
(28) The FAA Aeronautical Information Manual (AIM). An electronic version of the AIM is on the Internet at *http://www.faa.gov/atpubs.*

End Information

2. Applicability (§§ 60.1 and 60.2)

Begin Information

No additional regulatory or informational material applies to § 60.1, Applicability, or to § 60.2, Applicability of sponsor rules to person who are not sponsors and who are engaged in certain unauthorized activities.

End Information

3. Definitions (§ 60.3)

Begin Information

See Appendix F of this part for a list of definitions and abbreviations from part 1, part 60, and the QPS appendices of part 60.

End Information

4. Qualification Performance Standards (§ 60.4)

Begin Information

No additional regulatory or informational material applies to § 60.4, Qualification Performance Standards.

End Information

5. Quality Management System (§ 60.5)

Begin Information

Additional regulatory material and informational material regarding Quality Management Systems for FTDs may be found in appendix E of this part.

End Information

6. Sponsor Qualification Requirements (§ 60.7)

Begin Information

a. The intent of the language in § 60.7(b) is to have a specific FTD, identified by the sponsor, used at least once in an FAA-approved flight training program for the helicopter simulated during the 12-month period described. The identification of the specific FTD may change from one 12-month period to the next 12-month period as long as that sponsor sponsors and uses at least one FTD at least once during the prescribed period. There is no minimum number of hours or minimum FTD periods required.

b. The following examples describe acceptable operational practices:

(1) Example One.

(a) A sponsor is sponsoring a single, specific FTD for its own use, in its own facility or elsewhere—this single FTD forms the basis for the sponsorship. The sponsor uses that FTD at least once in each 12-month period in that sponsor's FAA-approved flight training program for the helicopter simulated. This 12-month period is established according to the following schedule:

(i) If the FTD was qualified prior to May 30, 2008, the 12-month period begins on the date of the first continuing qualification evaluation conducted in accordance with § 60.19 after May 30, 2008, and continues for each subsequent 12-month period;

(ii) A device qualified on or after May 30, 2008, will be required to undergo an initial or upgrade evaluation in accordance with § 60.15. Once the initial or upgrade evaluation is complete, the first continuing qualification evaluation will be conducted within 6 months. The 12 month continuing qualification evaluation cycle begins on that date and continues for each subsequent 12-month period.

(b) There is no minimum number of hours of FTD use required.

(c) The identification of the specific FTD may change from one 12-month period to the next 12-month period as long as that sponsor sponsors and uses at least one FTD at least once during the prescribed period.

(2) Example Two.

(a) A sponsor sponsors an additional number of FTDs, in its facility or elsewhere. Each additionally sponsored FTD must be—

(i) Used by the sponsor in the sponsor's FAA-approved flight training program for the helicopter simulated (as described in § 60.7(d)(1));

OR

(ii) Used by another FAA certificate holder in that other certificate holder's FAA-approved flight training program for the helicopter simulated (as described in § 60.7(d)(1)). This 12-month period is established in the same manner as in example one.

OR

(iii) Provided a statement each year from a qualified pilot, (after having flown the helicopter not the subject FTD or another FTD, during the preceding 12-month period) stating that the subject FTD's performance and handling qualities represent the helicopter (as described in § 60.7(d)(2)). This statement is provided at least once in each 12-month period established in the same manner as in example one.

(b) There is no minimum number of hours of FTD use required.

(3) Example Three.

(a) A sponsor in New York (in this example, a Part 142 certificate holder) establishes ''satellite'' training centers in Chicago and Moscow.

(b) The satellite function means that the Chicago and Moscow centers must operate under the New York center's certificate (in accordance with all of the New York center's practices, procedures, and policies; e.g., instructor and/or technician training/checking requirements, recordkeeping, QMS program).

(c) All of the FTDs in the Chicago and Moscow centers could be dry-leased (i.e., the certificate holder does not have and use FAA-approved flight training programs for the FTDs in the Chicago and Moscow centers) because—

(i) Each FTD in the Chicago center and each FTD in the Moscow center is used at least once each 12-month period by another FAA certificate holder in that other certificate holder's FAA-approved flight training program for the helicopter (as described in § 60.7(d)(1));

OR

(ii) A statement is obtained from a qualified pilot (having flown the helicopter, not the subject FTD or another FTD during the preceding 12-month period) stating that the performance and handling qualities of each FTD in the Chicago and Moscow centers represents the helicopter (as described in § 60.7(d)(2)).

End Information

7. Additional Responsibilities of the Sponsor (§ 60.9)

Begin Information

The phrase ''as soon as practicable'' in § 60.9(a) means without unnecessarily disrupting or delaying beyond a reasonable time the training, evaluation, or experience being conducted in the FSTD.

End Information

8. FSTD Use (§ 60.11)

Begin Information

No additional regulatory or informational material applies to § 60.11, FSTD Use.

End Information

9. FSTD Objective Data Requirements (§ 60.13)

Begin QPS Requirements

a. Flight test data used to validate FTD performance and handling qualities must have been gathered in accordance with a flight test program containing the following:

(1) A flight test plan consisting of:

(a) The maneuvers and procedures required for aircraft certification and simulation programming and validation.

(b) For each maneuver or procedure—

(i) The procedures and control input the flight test pilot and/or engineer used.

(ii) The atmospheric and environmental conditions.

(iii) The initial flight conditions.

(iv) The helicopter configuration, including weight and center of gravity.

(v) The data to be gathered.

(vi) All other information necessary to recreate the flight test conditions in the FTD.

(2) Appropriately qualified flight test personnel.

(3) Appropriate and sufficient data acquisition equipment or system(s), including appropriate data reduction and analysis methods and techniques, as would be acceptable to the FAA's Aircraft Certification Service.

b. The data, regardless of source, must be presented:

(1) In a format that supports the FTD validation process;

(2) In a manner that is clearly readable and annotated correctly and completely;

(3) With resolution sufficient to determine compliance with the tolerances set forth in Attachment 2, Table D2A appendix.

(4) With any necessary guidance information provided; and

(5) Without alteration, adjustments, or bias; however the data may be re-scaled, digitized, or otherwise manipulated to fit the desired presentation.

c. After completion of any additional flight test, a flight test report must be submitted in support of the validation data. The report must contain sufficient data and rationale to support qualification of the FTD at the level requested.

d. As required by § 60.13(f), the sponsor must notify the NSPM when it becomes aware that an addition to or a revision of the flight related data or helicopter systems related data is available if this data is used to program and operate a qualified FTD. The data referred to in this sub-section are those data that are used to validate the performance, handling qualities, or other characteristics of the aircraft, including data related to any relevant changes occurring after the type certification is issued. The sponsor must—

(1) Within 10 calendar days, notify the NSPM of the existence of this data; and

(a) Within 45 calendar days, notify the NSPM of—

(b) The schedule to incorporate this data into the FTD; or

(c) The reason for not incorporating this data into the FTD.

e. In those cases where the objective test results authorize a ''snapshot test'' or a ''series of snapshot tests'' results in lieu of a time-history result, the sponsor or other data provider must ensure that a steady state condition exists at the instant of time captured by the ''snapshot.'' The steady state condition must exist from 4 seconds prior to, through 1 second following, the instant of time captured by the snapshot.

End QPS Requirements

Begin Information

f. The FTD sponsor is encouraged to maintain a liaison with the manufacturer of the aircraft being simulated (or with the holder of the aircraft type certificate for the aircraft being simulated if the manufacturer is no longer in business), and if appropriate, with the person having supplied the aircraft data package for the FTD in order to facilitate the notification described in this paragraph.

g. It is the intent of the NSPM that for new aircraft entering service, at a point well in advance of preparation of the Qualification Test Guide (QTG), the sponsor should submit to the NSPM for approval, a descriptive document (a validation data roadmap) containing the plan for acquiring the validation data, including data sources. This document should clearly identify sources of data for all required tests, a description of the validity of these data for a specific engine type and thrust rating configuration, and the revision levels of all avionics affecting the performance or flying qualities of the aircraft. Additionally, this document should provide other information such as the rationale or explanation for cases where data or data parameters are missing, instances where engineering simulation data are used, or where flight test methods require further explanations. It should also provide a brief narrative describing the cause and effect of any deviation from data requirements. The aircraft manufacturer may provide this document.

h. There is no requirement for any flight test data supplier to submit a flight test plan or program prior to gathering flight test data. However, the NSPM notes that inexperienced data gatherers often provide data that is irrelevant, improperly marked, or lacking adequate justification for selection. Other problems include inadequate information regarding initial conditions or test maneuvers. The NSPM has been forced to refuse these data submissions as validation data for an FTD evaluation. For this reason the NSPM recommends that any data supplier not previously experienced in this area review the data necessary for programming and for validating the performance of the FTD and discuss the flight test plan anticipated for acquiring such data with the NSPM well in advance of commencing the flight tests.

i. The NSPM will consider, on a case-by-case basis, whether to approve supplemental validation data derived from flight data recording systems such as a Quick Access Recorder or Flight Data Recorder.

End Information

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10. Special Equipment and Personnel Requirements for Qualification of the FTD (§ 60.14)

Begin Information

a. In the event that the NSPM determines that special equipment or specifically qualified persons will be required to conduct an evaluation, the NSPM will make every attempt to notify the sponsor at least one (1) week, but in no case less than 72 hours, in advance of the evaluation. Examples of special equipment include flight control measurement devices, accelerometers, or oscilloscopes. Examples of specially qualified personnel include individuals specifically qualified to install or use any special equipment when its use is required.

b. Examples of a special evaluation include an evaluation conducted after an FTD is moved; at the request of the TPAA; or as a result of comments received from users of the FTD that raise questions about the continued qualification or use of the FTD.

End Information

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11. Initial (and Upgrade) Qualification Requirements (§ 60.15)

Begin QPS Requirement

a. In order to be qualified at a particular qualification level, the FTD must:

(1) Meet the general requirements listed in Attachment 1.

(2) Meet the objective testing requirements listed in Attachment 2 (Level 4 FTDs do not require objective tests).

(3) Satisfactorily accomplish the subjective tests listed in Attachment 3.

b. The request described in § 60.15(a) must include all of the following:

(1) A statement that the FTD meets all of the applicable provisions of this part and all applicable provisions of the QPS.

(2) A confirmation that the sponsor will forward to the NSPM the statement described in § 60.15(b) in such time as to be received no later than 5 business days prior to the scheduled evaluation and may be forwarded to the NSPM via traditional or electronic means.

(3) Except for a Level 4 FTD, a qualification test guide (QTG), acceptable to the NSPM, that includes all of the following:

(a) Objective data obtained from aircraft testing or another approved source.

(b) Correlating objective test results obtained from the performance of the FTD as prescribed in the appropriate QPS.

(c) The result of FTD subjective tests prescribed in the appropriate QPS.

(d) A description of the equipment necessary to perform the evaluation for initial qualification and the continuing qualification evaluations.

c. The QTG described in paragraph a(3) of this section must provide the documented proof of compliance with the FTD objective tests in Attachment 2, Table D2A of this appendix.

d. The QTG is prepared and submitted by the sponsor, or the sponsor's agent on behalf of the sponsor, to the NSPM for review and approval, and must include, for each objective test:

(1) Parameters, tolerances, and flight conditions.

(2) Pertinent and complete instructions for conducting automatic and manual tests.

(3) A means of comparing the FTD test results to the objective data.

(4) Any other information as necessary to assist in the evaluation of the test results.

(5) Other information appropriate to the qualification level of the FTD.

e. The QTG described in paragraphs (a)(3) and (b) of this section, must include the following:

(1) A QTG cover page with sponsor and FAA approval signature blocks (see Attachment 4, Figure D4C, for a sample QTG cover page).

(2) A continuing qualification evaluation requirements page. This page will be used by the NSPM to establish and record the frequency with which continuing qualification evaluations must be conducted and any subsequent changes that may be determined by the NSPM in accordance with § 60.19. See Attachment 4, Figure D4G, for a sample Continuing Qualification Evaluation Requirements page.

(3) An FTD information page that provides the information listed in this paragraph, if applicable (see Attachment 4, Figure D4B, for a sample FTD information page). For convertible FTDs, the sponsor must submit a separate page for each configuration of the FTD.

(a) The sponsor's FTD identification number or code.

(b) The helicopter model and series being simulated.

(c) The aerodynamic data revision number or reference.

(d) The source of the basic aerodynamic model and the aerodynamic coefficient data used to modify the basic model.

(e) The engine model(s) and its data revision number or reference.

(f) The flight control data revision number or reference.

(g) The flight management system identification and revision level.

(h) The FTD model and manufacturer.

(i) The date of FTD manufacture.

(j) The FTD computer identification.

(k) The visual system model and manufacturer, including display type.

(l) The motion system type and manufacturer, including degrees of freedom.

(4) A Table of Contents.

(5) A log of revisions and a list of effective pages.

(6) List of all relevant data references.

(7) A glossary of terms and symbols used (including sign conventions and units).

(8) Statements of compliance and capability (SOCs) with certain requirements. SOCs must provide references to the sources of information that show the capability of the FTD to comply with the requirement, a rationale explaining how the referenced material is used, mathematical equations and parameter values used, and the conclusions reached; i.e., that the FTD complies with the requirement.

(9) Recording procedures or equipment required to accomplish the objective tests.

(10) The following information for each objective test designated in Attachment 2, as applicable to the qualification level sought:

(a) Name of the test.

(b) Objective of the test.

(c) Initial conditions.

(d) Manual test procedures.

(e) Automatic test procedures (if applicable).

(f) Method for evaluating FTD objective test results.

(g) List of all relevant parameters driven or constrained during the automatic test(s).

(h) List of all relevant parameters driven or constrained during the manual test(s).

(i) Tolerances for relevant parameters.

(j) Source of Validation Data (document and page number).

(k) Copy of the Validation Data (if located in a separate binder, a cross reference for the identification and page number for pertinent data location must be provided).

(l) FTD Objective Test Results as obtained by the sponsor. Each test result must reflect the date completed and must be clearly labeled as a product of the device being tested.

f. A convertible FTD is addressed as a separate FTD for each model and series helicopter to which it will be converted and for the FAA qualification level sought. The NSPM will conduct an evaluation for each configuration. If a sponsor seeks qualification for two or more models of a helicopter type using a convertible FTD, the sponsor must provide a QTG for each helicopter model, or a QTG for the first helicopter model and a supplement to that QTG for each additional helicopter model. The NSPM will conduct evaluations for each helicopter model.

g. The form and manner of presentation of objective test results in the QTG must include the following:

(1) The sponsor's FTD test results must be recorded in a manner acceptable to the NSPM, that allows easy comparison of the FTD test results to the validation data (e.g., use of a multi-channel recorder, line printer, cross plotting, overlays, transparencies).

(2) FTD results must be labeled using terminology common to helicopter parameters as opposed to computer software identifications.

(3) Validation data documents included in a QTG may be photographically reduced only if such reduction will not alter the graphic scaling or cause difficulties in scale interpretation or resolution.

(4) Scaling on graphical presentations must provide the resolution necessary to evaluate the parameters shown in Attachment 2, Table D2A of this appendix.

(5) Tests involving time histories, data sheets (or transparencies thereof) and FTD test results must be clearly marked with appropriate reference points to ensure an accurate comparison between FTD and helicopter with respect to time. Time histories recorded via a line printer are to be clearly identified for cross-plotting on the helicopter data. Over-plots may not obscure the reference data.

h. The sponsor may elect to complete the QTG objective and subjective tests at the manufacturer's facility or at the sponsor's training facility. If the tests are conducted at the manufacturer's facility, the sponsor must repeat at least one-third of the tests at the sponsor's training facility in order to substantiate FTD performance. The QTG must be clearly annotated to indicate when and where each test was accomplished. Tests conducted at the manufacturer's facility and at the sponsor's training facility must be conducted after the FTD is assembled with systems and sub-systems functional and operating in an interactive manner. The test results must be submitted to the NSPM.

i. The sponsor must maintain a copy of the MQTG at the FTD location.

j. All FTDs for which the initial qualification is conducted after May 30, 2014, must have an electronic MQTG (eMQTG) including all objective data obtained from helicopter testing, or another approved source (reformatted or digitized), together with correlating objective test results obtained from the performance of the FTD (reformatted or digitized) as prescribed in this appendix. The eMQTG must also contain the general FTD performance or demonstration results (reformatted or digitized) prescribed in this appendix, and a description of the equipment necessary to perform the initial qualification evaluation and the continuing qualification evaluations. The eMQTG must include the original validation data used to validate FTD performance and handling qualities in either the original digitized format from the data supplier or an electronic scan of the original time-history plots that were provided by the data supplier. A copy of the eMQTG must be provided to the NSPM.

k. All other FTDs (not covered in subparagraph ''j'') must have an electronic copy of the MQTG by and after May 30, 2014. A copy of the eMQTG must be provided to the NSPM. This may be provided by an electronic scan presented in a Portable Document File (PDF), or similar format acceptable to the NSPM.

l. During the initial (or upgrade) qualification evaluation conducted by the NSPM, the sponsor must also provide a person knowledgeable about the operation of the aircraft and the operation of the FTD.

End QPS Requirements

Begin Information

m. Only those FTDs that are sponsored by a certificate holder as defined in Appendix F will be evaluated by the NSPM. However, other FTD evaluations may be conducted on a case-by-case basis as the Administrator deems appropriate, but only in accordance with applicable agreements.

n. The NSPM will conduct an evaluation for each configuration, and each FTD must be evaluated as completely as possible. To ensure a thorough and uniform evaluation, each FTD is subjected to the general FTD requirements in Attachment 1, the objective tests listed in Attachment 2, and the subjective tests listed in Attachment 3 of this appendix. The evaluations described herein will include, but not necessarily be limited to the following:

(1) Helicopter responses, including longitudinal and lateral-directional control responses (see Attachment 2 of this appendix).

(2) Performance in authorized portions of the simulated helicopter's operating envelope, to include tasks evaluated by the NSPM in the areas of surface operations, takeoff, climb, cruise, descent, approach and landing, as well as abnormal and emergency operations (see Attachment 2 of this appendix).

(3) Control checks (see Attachment 1 and Attachment 2 of this appendix).

(4) Flight deck configuration (see Attachment 1 of this appendix).

(5) Pilot, flight engineer, and instructor station functions checks (see Attachment 1 and Attachment 3 of this appendix).

(6) Helicopter systems and sub-systems (as appropriate) as compared to the helicopter simulated (see Attachment 1 and Attachment 3 of this appendix).

(7) FTD systems and sub-systems, including force cueing (motion), visual, and aural (sound) systems, as appropriate (see Attachment 1 and Attachment 2 of this appendix).

(8) Certain additional requirements, depending upon the qualification level sought, including equipment or circumstances that may become hazardous to the occupants. The sponsor may be subject to Occupational Safety and Health Administration requirements.

o. The NSPM administers the objective and subjective tests, which includes an examination of functions. The tests include a qualitative assessment of the FTD by an NSP pilot. The NSP evaluation team leader may assign other qualified personnel to assist in accomplishing the functions examination

and/or the objective and subjective tests performed during an evaluation when required.

(1) Objective tests provide a basis for measuring and evaluating FTD performance and determining compliance with the requirements of this part.

(2) Subjective tests provide a basis for:

(a) Evaluating the capability of the FTD to perform over a typical utilization period;

(b) Determining that the FTD satisfactorily simulates each required task;

(c) Verifying correct operation of the FTD controls, instruments, and systems; and

(d) Demonstrating compliance with the requirements of this part.

p. The tolerances for the test parameters listed in Attachment 2 of this appendix reflect the range of tolerances acceptable to the NSPM for FTD validation and are not to be confused with design tolerances specified for FTD manufacture. In making decisions regarding tests and test results, the NSPM relies on the use of operational and engineering judgment in the application of data (including consideration of the way in which the flight test was flown and way the data was gathered and applied), data presentations, and the applicable tolerances for each test.

q. In addition to the scheduled continuing qualification evaluation, each FTD is subject to evaluations conducted by the NSPM at any time without prior notification to the sponsor. Such evaluations would be accomplished in a normal manner (i.e., requiring exclusive use of the FTD for the conduct of objective and subjective tests and an examination of functions) if the FTD is not being used for flight crewmember training, testing, or checking. However, if the FTD were being used, the evaluation would be conducted in a non-exclusive manner. This non-exclusive evaluation will be conducted by the FTD evaluator accompanying the check airman, instructor, Aircrew Program Designee (APD), or FAA inspector aboard the FTD along with the student(s) and observing the operation of the FTD during the training, testing, or checking activities.

r. Problems with objective test results are handled as follows:

(1) If a problem with an objective test result is detected by the NSP evaluation team during an evaluation, the test may be repeated or the QTG may be amended.

(2) If it is determined that the results of an objective test do not support the qualification level requested but do support a lower level, the NSPM may qualify the FTD at a lower level.

s. After an FTD is successfully evaluated, the NSPM issues a Statement of Qualification (SOQ) to the sponsor, The NSPM recommends the FTD to the TPAA, who will approve the FTD for use in a flight training program. The SOQ will be issued at the satisfactory conclusion of the initial or continuing qualification evaluation and will list the tasks for which the FTD is qualified, referencing the tasks described in Table D1B in attachment 1. However, it is the sponsor's responsibility to obtain TPAA approval prior to using the FTD in an FAA-approved flight training program.

t. Under normal circumstances, the NSPM establishes a date for the initial or upgrade evaluation within ten (10) working days after determining that a complete QTG is acceptable. Unusual circumstances may warrant establishing an evaluation date before this determination is made. A sponsor may schedule an evaluation date as early as 6 months in advance. However, there may be a delay of 45 days or more in rescheduling and completing the evaluation if the sponsor is unable to meet the scheduled date. See Attachment 4, Figure D4A, Sample Request for Initial, Upgrade, or Reinstatement Evaluation.

u. The numbering system used for objective test results in the QTG should closely follow the numbering system set out in Attachment 2, FTD Objective Tests, Table D2A.

v. Contact the NSPM or visit the NSPM Web site for additional information regarding the preferred qualifications of pilots used to meet the requirements of § 60.15(d).

w. Examples of the exclusions for which the FTD might not have been subjectively tested by the sponsor or the NSPM and for which qualification might not be sought or granted, as described in § 60.15(g)(6), include approaches to and departures from slopes and pinnacles.

End Information

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12. Additional Qualifications for Currently Qualified FSTDs (§ 60.16)

Begin Information

No additional regulatory or informational material applies to § 60.16, Additional Qualifications for a Currently Qualified FTD.

End Information

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13. Previously Qualified FSTDs (§ 60.17)

Begin QPS Requirements

a. In instances where a sponsor plans to remove an FTD from active status for a period of less than two years, the following procedures apply:

(1) The NSPM must be notified in writing and the notification must include an estimate of the period that the FTD will be inactive.

(2) Continuing Qualification evaluations will not be scheduled during the inactive period.

(3) The NSPM will remove the FTD from the list of qualified FSTDs on a mutually established date not later than the date on which the first missed continuing qualification evaluation would have been scheduled.

(4) Before the FTD is restored to qualified status, it must be evaluated by the NSPM. The evaluation content and the time required to accomplish the evaluation is based on the number of continuing qualification evaluations and sponsor-conducted quarterly inspections missed during the period of inactivity.

(5) The sponsor must notify the NSPM of any changes to the original scheduled time out of service.

b. FTDs and replacement FTD systems qualified prior to May 30, 2008, are not required to meet the general FTD requirements, the objective test requirements, and the subjective test requirements of Attachments 1, 2, and 3, respectively, of this appendix as long as the FTD continues to meet the test requirements contained in the MQTG developed under the original qualification basis.

c. After (1 year after date of publication of the final rule in the **Federal Register**) each visual scene and airport model installed in and available for use in a qualified FTD must meet the requirements described in Attachment 3 of this appendix.

End QPS Requirements

Begin Information

d. Other certificate holders or persons desiring to use an FTD may contract with FTD sponsors to use FTDs previously qualified at a particular level for a helicopter type and approved for use within an FAA-approved flight training program. Such FTDs are not required to undergo an additional qualification process, except as described in § 60.16.

e. Each FTD user must obtain approval from the appropriate TPAA to use any FTD in an FAA-approved flight training program.

f. The intent of the requirement listed in § 60.17(b), for each FTD to have a Statement of Qualification within 6 years, is to have the availability of that statement (including the configuration list and the limitations to authorizations) to provide a complete picture of the FTD inventory regulated by the FAA. The issuance of the statement will not require any additional evaluation or require any adjustment to the evaluation basis for the FTD.

g. Downgrading of an FTD is a permanent change in qualification level and will necessitate the issuance of a revised Statement of Qualification to reflect the revised qualification level, as appropriate. If a temporary restriction is placed on an FTD because of a missing, malfunctioning, or inoperative component or on-going repairs, the restriction is not a permanent change in qualification level. Instead, the restriction is temporary and is removed when the reason for the restriction has been resolved.

h. It is not the intent of the NSPM to discourage the improvement of existing simulation (e.g., the ''updating'' of a control loading system, or the replacement of the IOS with a more capable unit) by requiring the ''updated'' device to meet the qualification standards current at the time of the update. Depending on the extent of the update, the NSPM may require that the updated device be evaluated and may require that an evaluation include all or a portion of the elements of an initial evaluation. However, the standards against which the device would be evaluated are those that are found in the MQTG for that device.

i. The NSPM will determine the evaluation criteria for an FTD that has been removed from active status for a prolonged period. The criteria will be based on the number of continuing qualification evaluations and quarterly inspections missed during the period of inactivity. For example, if the FTD

were out of service for a 1 year period, it would be necessary to complete the entire QTG, since all of the quarterly evaluations would have been missed. The NSPM will also consider how the FTD was stored, whether parts were removed from the FTD and whether the FTD was disassembled.

j. The FTD will normally be requalified using the FAA-approved MQTG and the criteria that was in effect prior to its removal from qualification. However, inactive periods of 2 years or more will require re-qualification under the standards in effect and current at the time of requalification.

End Information

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14. Inspection, Continuing Qualification, Evaluation, and Maintenance Requirements (§ 60.19)

Begin QPS Requirement

a. The sponsor must conduct a minimum of four evenly spaced inspections throughout the year. The objective test sequence and content of each inspection in this sequence must be developed by the sponsor and must be acceptable to the NSPM.

b. The description of the functional preflight inspection must be contained in the sponsor's QMS.

c. Record ''functional preflight'' in the FTD discrepancy log book or other acceptable location, including any item found to be missing, malfunctioning, or inoperative.

d. During the continuing qualification evaluation conducted by the NSPM, the sponsor must also provide a person knowledgeable about the operation of the aircraft and the operation of the FTD.

End QPS Requirements

Begin Information

e. The sponsor's test sequence and the content of each quarterly inspection required in § 60.19(a)(1) should include a balance and a mix from the objective test requirement areas listed as follows:

(1) Performance.
(2) Handling qualities.
(3) Motion system (where appropriate).
(4) Visual system (where appropriate).
(5) Sound system (where appropriate).
(6) Other FTD systems.

f. If the NSP evaluator plans to accomplish specific tests during a normal continuing qualification evaluation that requires the use of special equipment or technicians, the sponsor will be notified as far in advance of the evaluation as practical; but not less than 72 hours. Examples of such tests include latencies and control sweeps.

g. The continuing qualification evaluations described in § 60.19(b) will normally require 4 hours of FTD time. However, flexibility is necessary to address abnormal situations or situations involving aircraft with additional levels of complexity (e.g., computer controlled aircraft). The sponsor should anticipate that some tests may require additional time. The continuing qualification evaluations will consist of the following:

(1) Review of the results of the quarterly inspections conducted by the sponsor since the last scheduled continuing qualification evaluation.

(2) A selection of approximately 8 to 15 objective tests from the MQTG that provide an adequate opportunity to evaluate the performance of the FTD. The tests chosen will be performed either automatically or manually and should be able to be conducted within approximately one-third (⅓) of the allotted FTD time.

(3) A subjective evaluation of the FTD to perform a representative sampling of the tasks set out in attachment 3 of this appendix. This portion of the evaluation should take approximately two-thirds (⅔) of the allotted FTD time.

(4) An examination of the functions of the FTD may include the motion system, visual system, sound system as applicable, instructor operating station, and the normal functions and simulated malfunctions of the simulated helicopter systems. This examination is normally accomplished simultaneously with the subjective evaluation requirements.

h. The requirement established in § 60.19(b)(4) regarding the frequency of NSPM-conducted continuing qualification evaluations for each FTD is typically 12 months. However, the establishment and satisfactory implementation of an approved QMS for a sponsor will provide a basis for adjusting the frequency of evaluations to exceed 12-month intervals.

End Information

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15. Logging FSTD Discrepancies (§ 60.20)

Begin Information

No additional regulatory or informational material applies to § 60.20. Logging FSTD Discrepancies.

End Information

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16. Interim Qualification of FSTDs for New Helicopter Types or Models (§ 60.21)

Begin Information

No additional regulatory or informational material applies to § 60.21, Interim Qualification of FSTDs for New Helicopter Types or Models.

End Information

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17. Modifications to FSTDs (§ 60.23)

Begin QPS Requirements

a. The notification described in § 60.23(c)(2) must include a complete description of the planned modification, with a description of the operational and engineering effect the proposed modification will have on the operation of the FTD and the results that are expected with the modification incorporated.

b. Prior to using the modified FTD:

(1) All the applicable objective tests completed with the modification incorporated, including any necessary updates to the MQTG (e.g., accomplishment of FSTD Directives) must be acceptable to the NSPM; and

(2) The sponsor must provide the NSPM with a statement signed by the MR that the factors listed in § 60.15(b) are addressed by the appropriate personnel as described in that section.

End QPS Requirements

Begin Information

c. FSTD Directives are considered modification of an FTD. See Attachment 4, Figure D4H for a sample index of effective FSTD Directives. See Attachment 6 for a list of all effective FSTD Directives applicable to Helicopter FTDs.

End Information

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18. Operation with Missing, Malfunctioning, or Inoperative Components (§ 60.25)

Begin Information

a. The sponsor's responsibility with respect to § 60.25(a) is satisfied when the sponsor fairly and accurately advises the user of the current status of an FTD, including any missing, malfunctioning, or inoperative (MMI) component(s).

b. If the 29th or 30th day of the 30-day period described in § 60.25(b) is on a Saturday, a Sunday, or a holiday, the FAA will extend the deadline until the next business day.

c. In accordance with the authorization described in § 60.25(b), the sponsor may develop a discrepancy prioritizing system to accomplish repairs based on the level of impact on the capability of the FTD. Repairs having a larger impact on the FTD's ability to provide the required training, evaluation, or flight experience will have a higher priority for repair or replacement.

End Information

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19. Automatic Loss of Qualification and Procedures for Restoration of Qualification (§ 60.27)

Begin Information

If the sponsor provides a plan for how the FTD will be maintained during its out-of-service period (e.g., periodic exercise of mechanical, hydraulic, and electrical systems; routine replacement of hydraulic fluid; control of the environmental factors in which the FTD is to be maintained.) there is a greater likelihood that the NSPM will be able to determine the amount of testing that required for requalification.

End Information

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20. Other Losses of Qualification and Procedures for Restoration of Qualification (§ 60.29)

Begin Information

If the sponsor provides a plan for how the FTD will be maintained during its out-of-service period (e.g., periodic exercise of mechanical, hydraulic, and electrical systems; routine replacement of hydraulic fluid; control of the environmental factors in which the FTD is to be maintained.) there is a greater likelihood that the NSPM will be able to determine the amount of testing that required for requalification.

End Information

21. Recordkeeping and Reporting (§ 60.31)

Begin QPS Requirements

a. FTD modifications can include hardware or software changes. For FTD modifications involving software programming changes, the record required by § 60.31(a)(2) must consist of the name of the aircraft system software, aerodynamic model, or engine model change, the date of the change, a summary of the change, and the reason for the change.

b. If a coded form for recordkeeping is used, it must provide for the preservation and retrieval of information with appropriate security or controls to prevent the inappropriate alteration of such records after the fact.

End QPS Requirements

22. Applications, Logbooks, Reports, and Records: Fraud, Falsification, or Incorrect Statements (§ 60.33)

Begin Information

No additional regulatory or informational material applies to § 60.33, Applications, Logbooks, Reports, and Records: Fraud, Falsification, or Incorrect Statements.

23. [Reserved]

End Information

24. Levels of FTD

Begin Information

a. The following is a general description of each level of FTD. Detailed standards and tests for the various levels of FTDs are fully defined in Attachments 1 through 3 of this appendix.

(1) *Level 4.* A Level 4 device is one that may have an open helicopter-specific flight deck area, or an enclosed helicopter-specific flight deck and at least one operating system. Air/ground logic is required (no aerodynamic programming required). All displays may be flat/LCD panel representations or actual representations of displays in the aircraft. All controls, switches, and knobs may be touch sensitive activation (not capable of manual manipulation of the flight controls) or may physically replicate the aircraft in control operation.

(2) *Level 5.* A Level 5 device is one that may have an open helicopter-specific flight deck area, or an enclosed helicopter-specific flight deck and a generic aerodynamic program with at least one operating system and control loading representative of the simulated helicopter. The control loading need only represent the helicopter at an approach speed and configuration. All displays may be flat/LCD panel representations or actual representations of displays in the aircraft. Primary and secondary flight controls (e.g., rudder, aileron, elevator, flaps, spoilers/speed brakes, engine controls, landing gear, nose wheel steering, trim, brakes) must be physical controls. All other controls, switches, and knobs may be touch sensitive activation.

(3) *Level 6.* A Level 6 device is one that has an enclosed helicopter-specific flight deck and aerodynamic program with all applicable helicopter systems operating and control loading that is representative of the simulated helicopter throughout its ground and flight envelope and significant sound representation. All displays may be flat/LCD panel representations or actual representations of displays in the aircraft, but all controls, switches, and knobs must physically replicate the aircraft in control operation.

(4) *Level 7.* A Level 7 device is one that has an enclosed helicopter-specific flight deck and aerodynamic program with all applicable helicopter systems operating and control loading that is representative of the simulated helicopter throughout its ground and flight envelope and significant sound representation. All displays may be flat/LCD panel representations or actual representations of displays in the aircraft, but all controls, switches, and knobs must physically replicate the aircraft in control operation. It also has a visual system that provides an out-of-the-flight deck view, providing cross-flight deck viewing (for both pilots simultaneously) of a field of view of at least 146° horizontally and 36° vertically as well as a vibration cueing system for characteristic helicopter vibrations noted at the pilot station(s).

End Information

25. FSTD Qualification on the Basis of a Bilateral Aviation Safety Agreement (BASA) (§ 60.37)

Begin Information

No additional regulatory or informational material applies to § 60.37, FSTD Qualification on the Basis of a Bilateral Aviation Safety Agreement (BASA).

End Information

Attachment 1 to Appendix D to Part 60—General FTD Requirements

Begin QPS Requirements

1. Requirements

a. Certain requirements included in this appendix must be supported with a Statement of Compliance and Capability (SOC), which may include objective and subjective tests. The SOC will confirm that the requirement was satisfied, and describe how the requirement was met. The requirements for SOCs and tests are indicated in the ''General FTD Requirements'' column in Table D1A of this appendix.

b. Table D1A describes the requirements for the indicated level of FTD. Many devices include operational systems or functions that exceed the requirements outlined in this section. In any event, all systems will be tested and evaluated in accordance with this appendix to ensure proper operation.

End QPS Requirements

Begin Information

2. Discussion

a. This attachment describes the general requirements for qualifying Level 4 through Level 7 FTDs. The sponsor should also consult the objectives tests in Attachment 2 and the examination of functions and subjective tests listed in Attachment 3 to determine the complete requirements for a specific level FTD.

b. The material contained in this attachment is divided into the following categories:

(1) General Flight Deck Configuration.

(2) Programming.

(3) Equipment Operation.

(4) Equipment and facilities for instructor/evaluator functions.

(5) Motion System.

(6) Visual System.

(7) Sound System.

c. Table D1A provides the standards for the General FTD Requirements.

d. Table D1B provides the tasks that the sponsor will examine to determine whether the FSTD satisfactorily meets the requirements for flight crew training, testing, and experience.

e. Table D1C provides the functions that an instructor/check airman must be able to control in the simulator.

f. It is not required that all of the tasks that appear on the List of Qualified Tasks (part of the SOQ) be accomplished during the initial or continuing qualification evaluation.

End Information

TABLE D1A.—MINIMUM FTD REQUIREMENTS

<<<QPS requirements>>>						<<Information>> notes
Number	General FTD requirements	FTD level				
		4	5	6	7	
1. General Flight Deck Configuration						
1.a.	The FTD must have a flight deck that is a replica of the helicopter, or set of helicopters simulated with controls, equipment, observable flight deck indicators, circuit breakers, and bulkheads properly located, functionally accurate and replicating the helicopter or set of helicopters. The direction of movement of controls and switches must be identical to that in the helicopter or set of helicopters. Crewmember seats must afford the capability for the occupant to be able to achieve the design "eye position." Equipment for the operation of the flight deck windows must be included, but the actual windows need not be operable. Fire axes, extinguishers, and spare light bulbs must be available in the flight simulator, but may be relocated to a suitable location as near as practical to the original position. Fire axes, landing gear pins, and any similar purpose instruments need only be represented in silhouette. An SOC is required.			X	X	For FTD purposes, the flight deck consists of all that space forward of a cross section of the flight deck at the most extreme aft setting of the pilots' seats including additional, required crewmember duty stations and those required bulkheads aft of the pilot seats.
1.b.	The FTD must have equipment (i.e., instruments, panels, systems, circuit breakers, and controls) simulated sufficiently for the authorized training/checking events to be accomplished. The installed equipment, must be located in a spatially correct configuration, and may be in a flight deck or an open flight deck area. Additional equipment required for the authorized training and checking events must be available in the FTD but may be located in a suitable location as near as practical to the spatially correct position. Actuation of this equipment must replicate the appropriate function in the helicopter. Fire axes, landing gear pins, and any similar purpose instruments need only be represented in silhouette. An SOC is required.	X	X			
2. Programming						
2.a.	The FTD must provide the proper effect of aerodynamic changes for the combinations of drag and thrust normally encountered in flight. This must include the effect of change in helicopter attitude, thrust, drag, altitude, temperature, and configuration. Levels 6 and 7 additionally require the effects of changes in gross weight and center of gravity. Level 5 requires only generic aerodynamic programming. An SOC is required.		X	X	X	
2.b.	The FTD must have the computer (analog or digital) capability (i.e., capacity, accuracy, resolution, and dynamic response) needed to meet the qualification level sought. An SOC is required.	X	X	X	X	
2.c.	Relative responses of the flight deck instruments must be measured by latency tests or transport delay tests, and may not exceed 150 milliseconds. The instruments must respond to abrupt input at the pilot's position within the allotted time, but not before the time that the helicopter or set of helicopters would respond under the same conditions.					

TABLE D1A.—MINIMUM FTD REQUIREMENTS—Continued

<<<QPS requirements>>>						<<Information>> notes
Number	General FTD requirements	FTD level				
		4	5	6	7	
	• Latency: The FTD instrument and, if applicable, the motion system and the visual system response must not be prior to that time when the helicopter responds and may respond up to 150 milliseconds after that time under the same conditions. • Transport Delay: As an alternative to the Latency requirement, a transport delay objective test may be used to demonstrate that the FTD system does not exceed the specified limit. The sponsor must measure all the delay encountered by a step signal migrating from the pilot's control through all the simulation software modules in the correct order, using a handshaking protocol, finally through the normal output interfaces to the instrument display and, if applicable, the motion system, and the visual system. An objective test is required.		X	X	X	The intent is to verify that the FTD provides instrument cues that are, within the stated time delays, like the helicopter responses. For helicopter response, acceleration in the appropriate, corresponding rotational axis is preferred.
3. Equipment Operation						
3.a.	All relevant instrument indications involved in the simulation of the helicopter must automatically respond to control movement or external disturbances to the simulated helicopter or set of helicopters; e.g., turbulence or winds. A subjective test is required.	A	X	X	X	
3.b.	Navigation equipment must be installed and operate within the tolerances applicable for the helicopter or set of helicopters. Levels 6 and 7 must also include communication equipment (inter-phone and air/ground) like that in the helicopter. Level 5 only needs that navigation equipment necessary to fly an instrument approach. A subjective test is required.	A	X	X	X	
3.c.	Installed systems must simulate the applicable helicopter system operation both on the ground and in flight. At least one helicopter system must be represented. Systems must be operative to the extent that applicable normal, abnormal, and emergency operating procedures included in the sponsor's training programs can be accomplished. Levels 6 and 7 must simulate all applicable helicopter flight, navigation, and systems operation. Level 5 must have functional flight and navigational controls, displays, and instrumentation. A subjective test is required.	A	X	X	X	
3.d.	The lighting environment for panels and instruments must be sufficient for the operation being conducted. A subjective test is required.	X	X	X	X	Back-lighted panels and instruments may be installed but are not required.
3.e.	The FTD must provide control forces and control travel that correspond to the replicated helicopter or set of helicopters. Control forces must react in the same manner as in the helicopter or set of helicopters under the same flight conditions. A subjective test is required.			X	X	
3.f.	The FTD must provide control forces and control travel of sufficient precision to manually fly an instrument approach. The control forces must react in the same manner as in the helicopter or set of helicopters under the same flight conditions. A subjective test is required.		X			

TABLE D1A.—MINIMUM FTD REQUIREMENTS—Continued

<<<QPS requirements>>>						<<Information>> notes
Number	General FTD requirements	FTD level				
		4	5	6	7	
4. Instructor or Evaluator Facilities						
4.a.	In addition to the flight crewmember stations, suitable seating arrangements for an instructor/check airman and FAA Inspector must be available. These seats must provide adequate view of crewmember's panel(s). A subjective test is required.	X	X	X	X	These seats need not be a replica of an aircraft seat and may be as simple as an office chair placed in an appropriate position.
4.b.	The FTD must have instructor controls that permit activation of normal, abnormal, and emergency conditions, as may be appropriate. Once activated, proper system operation must result from system management by the crew and not require input from the instructor controls. A subjective test is required.	X	X	X	X	
5. Motion System						
5.a.	The FTD may have a motion system; if desired, although it is not required. If installed, the motion system operation may not be distracting. A subjective test is required.	X	X	X		
5.b.	Although it is not required, if a motion system is installed and additional training, testing, or checking credits are being sought on the basis of having a motion system, the motion system operation may not be distracting and must be coupled closely to provide integrated sensory cues. The motion system must also respond to abrupt input at the pilot's position within the allotted time, but not before the time when the helicopter would respond under the same conditions, it must be measured by latency tests or transport delay tests and may not exceed 150 milliseconds. Instrument response may not occur prior to motion onset. An objective test is required.	X	X	X		
5.c.	The FTD must have at least a vibration cueing system for characteristic helicopter vibrations noted at the pilot station(s). If a motion system is installed, although it is not required, it must be measured by latency tests or transport delay tests and may not exceed 100 milliseconds. Instrument response may not occur prior to motion onset. A subjective test is required.				X	May be accomplished by a "seat shaker" or a bass speaker sufficient to provide the necessary cueing.
6. Visual System						
6.a.	The FTD may have a visual system, if desired, although it is not required. If a visual system is installed, it must meet the following criteria:.					
6.a.1. ...	The visual system must respond to abrupt input at the pilot's position. An SOC is required. A Subjective Test is required.	X	X	X		
6.a.2. ...	The visual system must be at least a single channel, non-collimated display. An SOC is required. A Subjective Test is required.	X	X	X		
6.a.3. ...	The visual system must provide at least a field of view of 18° vertical/24° horizontal for the pilot flying. An SOC is required.	X	X	X		

TABLE D1A.—MINIMUM FTD REQUIREMENTS—Continued

<<<QPS requirements>>>						<<Information>> notes
Number	General FTD requirements	FTD level				
		4	5	6	7	
6.a.4. ...	The visual system must provide for a maximum parallax of 10° per pilot. An SOC is required.	X	X	X		
6.a.5. ...	The visual scene content may not be distracting ..... An SOC is required. A Subjective Test is required.	X	X	X		
6.a.6. ...	The minimum distance from the pilot's eye position to the surface of a direct view display may not be less than the distance to any front panel instrument. An SOC is required.	X	X	X		
6.a.7. ...	The visual system must provide for a minimum resolution of 5 arc-minutes for both computed and displayed pixel size. An SOC is required.	X	X	X		
6.b.	If a visual system is installed and additional training, testing, or checking credits are being sought on the basis of having a visual system, a visual system meeting the standards set out for at least a Level A FFS (see Appendix A of this part) will be required. A ''direct-view,'' non-collimated visual system (with the other requirements for a Level A visual system met) may be considered satisfactory for those installations where the visual system design ''eye point'' is appropriately adjusted for each pilot's position such that the parallax error is at or less than 10° simultaneously for each pilot. An SOC is required. An objective test is required.	X	X	X		
6.c.	The FTD must provide a continuous visual field of view of at least 146° horizontally and 36° vertically for both pilot seats, simultaneously. The minimum horizontal field of view coverage must be plus and minus one-half (½) of the minimum continuous field of view requirement, centered on the zero degree azimuth line relative to the aircraft fuselage. Additional horizontal field of view capability may be added at the sponsor's discretion provided the minimum field of view is retained. Capability for a field of view in excess of these minima is not required for qualification at Level 7. However, where specific tasks require extended fields of view beyond the 146° by 36° (e.g., to accommodate the use of ''chin windows'' where the accommodation is either integral with or separate from the primary visual system display), then such extended fields of view must be provided. An SOC is required and must explain the geometry of the installation. An objective test is required.				X	Optimization of the vertical field of view may be considered with respect to the specific helicopter flight deck cut-off angle. When considering the installation/use of augmented fields of view, as described here, it will be the responsibility of the sponsor to meet with the NSPM to determine the training, testing, checking, or experience tasks for which the augmented field of view capability may be critical to that approval.
7. Sound System						
7.a.	The FTD must simulate significant flight deck sounds resulting from pilot actions that correspond to those heard in the helicopter. A subjective test is required.			X	X	

Note: An ''A'' in the table indicates that the system, task, or procedure may be examined if the appropriate helicopter system or control is simulated in the FTD and is working properly.

TABLE D1B.—MINIMUM FTD REQUIREMENTS

<<<QPS requirements>>>						<<<Information>>>
Number	Subjective requirements The FTD must be able to perform the tasks associated with the level of qualification sought.	FTD level				Notes
		4	5	6	7	
1. Preflight Procedures						
1.a.	Preflight Inspection (Flight Deck Only) switches, indicators, systems, and equipment.	A	A	X	X	
1.b.	APU/Engine start and run-up.					
1.b.1. ...	Normal start procedures	A	A	X	X	
1.b.2. ...	Alternate start procedures	A	A	X	X	
1.b.3. ...	Abnormal starts and shutdowns (hot start, hung start) ...	A	A	X	X	
1.c.	Taxiing—Ground				X	
1.d.	Taxiing—Hover				X	
1.e.	Pre-takeoff Checks	A	A	X	X	
2. Takeoff and Departure Phase						
2.a.	Normal takeoff.					
2.a.1. ...	From ground				X	
2.a.2. ...	From hover				X	
2.a.3	Running				X	
2.b.	Instrument			X	X	
2.c.	Powerplant Failure During Takeoff			X	X	
2.d.	Rejected Takeoff				X	
2.e.	Instrument Departure			X	X	
3. Climb						
3.a.	Normal			X	X	
3.b.	Obstacle clearance				X	
3.c.	Vertical			X	X	
3.d.	One engine inoperative			X	X	
4. In-flight Maneuvers						
4.a.	Turns (timed, normal, steep)		X	X	X	
4.b.	Powerplant Failure—Multiengine Helicopters			X	X	
4.c.	Powerplant Failure—Single-Engine Helicopters			X	X	
4.d.	Recovery From Unusual Attitudes				X	
4.e.	Settling with Power				X	
5. Instrument Procedures						
5.a.	Instrument Arrival			X	X	
5.b.	Holding			X	X	
5.c.	Precision Instrument Approach					
5.c.1.	Normal—All engines operating		X	X	X	
5.c.2.	Manually controlled—One or more engines inoperative			X	X	

TABLE D1B.—MINIMUM FTD REQUIREMENTS—Continued

<<<QPS requirements>>>						<<<Information>>>
Number	Subjective requirements The FTD must be able to perform the tasks associated with the level of qualification sought.	FTD level				Notes
		4	5	6	7	
5.d.	Non-precision Instrument Approach		X	X	X	
5.e.	Missed Approach					
5.e.1. ...	All engines operating			X	X	
5.e.2. ...	One or more engines inoperative			X	X	
5.e.3. ...	Stability augmentation system failure			X	X	
6. Landings and Approaches to Landings						
6.a.	Visual Approaches (normal, steep, shallow)				X	
6.b.	Landings					
6.b.1. ...	Normal/crosswind					
6.b.1.a.	Running				X	
6.b.1.b.	From Hover				X	
6.b.2. ...	One or more engines inoperative				X	
6.b.3. ...	Rejected Landing				X	
7. Normal and Abnormal Procedures						
7.a.	Powerplant	A	A	X	X	
7.b.	Fuel System	A	A	X	X	
7.c.	Electrical System	A	A	X	X	
7.d.	Hydraulic System	A	A	X	X	
7.e.	Environmental System(s)	A	A	X	X	
7.f.	Fire Detection and Extinguisher Systems	A	A	X	X	
7.g.	Navigation and Aviation Systems	A	A	X	X	
7.h.	Automatic Flight Control System, Electronic Flight Instrument System, and Related Subsystems.	A	A	X	X	
7.i.	Flight Control Systems	A	A	X	X	
7.j.	Anti-ice and Deice Systems	A	A	X	X	
7.k.	Aircraft and Personal Emergency Equipment	A	A	X	X	
7.l.	Special Missions tasks (e.g., Night Vision goggles, Forward Looking Infrared System, External Loads and as may be listed on the Statement of Qualification).				X	
8. Emergency procedures (as applicable)						
8.a.	Emergency Descent			X	X	
8.b.	Inflight Fire and Smoke Removal			X	X	
8.c.	Emergency Evacuation			X	X	
8.d.	Ditching				X	
8.e.	Autorotative Landing				X	
8.f.	Retreating blade stall recovery				X	

TABLE D1B.—MINIMUM FTD REQUIREMENTS—Continued

<<<QPS requirements>>>						<<<Information>>>
Number	Subjective requirements The FTD must be able to perform the tasks associated with the level of qualification sought.	FTD level				Notes
		4	5	6	7	
8.g.	Mast bumping				X	
8.h.	Loss of tail rotor effectiveness			X	X	
9. Postflight Procedures						
9.a.	After-Landing Procedures	A	A	X	X	
9.b.	Parking and Securing					
9.b.1. ...	Rotor brake operation	A	A	X	X	
9.b.2. ...	Abnormal/emergency procedures	A	A	X	X	

Note: An ''A'' in the table indicates that the system, task, or procedure may be examined if the appropriate aircraft system or control is simulated in the FSTD and is working properly.

TABLE D1C.—TABLE OF FTD SYSTEM TASKS

<<<QPS requirements>>>						<< Information >>
Number	Subjective requirements In order to be qualifed at the FTD qualification level indicated, the FTD must be able to perform at least the tasks associate with that level of qualification.	FTD level				Notes
		4	5	6	7	
1. Instructor Operating Station (IOS)						
1.a.	Power switch(es)	A	X	X	X	
1.b.	Helicopter conditions	A	A	X	X	e.g., GW, CG, Fuel loading, Systems, Ground. Crew.
1.c.	Airports / Heliports / Helicopter Landing Areas	A	X	X	X	e.g., Selection, Surface, Presets, Lighting controls.
1.d.	Environmental controls	A	X	X	X	e.g., Temp and Wind.
1.e.	Helicopter system malfunctions (Insertion / deletion)	A	A	X	X	
1.f.	Locks, Freezes, and Repositioning (as appropriate)	A	X	X	X	
1.g.	Sound Controls. (On / off / adjustment)		X	X	X	
1.fh	Motion / Control Loading System, as appropriate. On / off / emergency stop.		A	X	X	
2. Observer Seats / Stations						
2.a.	Position / Adjustment / Positive restraint system	A	X	X	X	

Attachment 2 to Appendix D to Part 60—

Flight Training Device (FTD) Objective Tests

Begin Information

1. Discussion

a. If relevant winds are present in the objective data, the wind vector (magnitude and direction) should be noted as part of the data presentation, expressed in conventional terminology, and related to the runway being used for the test.

b. The format for numbering the objective tests in Appendix C, Attachment 2, Table C2A, and the objective tests in Appendix D, Attachment 2, Table D2A, is identical. However, each test required for FFSs is not necessarily required for FTDs, and each test required for FTDs is not necessarily required for FFSs. When a test number (or series of numbers) is not required, the term ''Reserved'' is used in the table at that location. Following this numbering format provides a degree of commonality between the two tables and substantially reduces the potential for confusion when referring to objective test numbers for either FFSs or FTDs.

c. A Level 4 FTD does not require objective tests and is not addressed in the following table.

End Information

Begin QPS Requirements

2. Test Requirements

a. The ground and flight tests required for qualification are listed in Table D2A Objective Evaluation Tests. Computer generated FTD test results must be provided for each test except where an alternate test is specifically authorized by the NSPM. If a flight condition or operating condition is required for the test but does not apply to the helicopter being simulated or to the qualification level sought, it may be disregarded (e.g., engine out climb capability for a single-engine helicopter). Each test result is compared against the validation data described in § 60.13, and in Appendix B. The results must be produced on an appropriate recording device acceptable to the NSPM and

must include FTD number, date, time, conditions, tolerances, and appropriate dependent variables portrayed in comparison to the validation data. Time histories are required unless otherwise indicated in Table D2A. All results must be labeled using the tolerances and units given.

b. Table D2A in this attachment sets out the test results required, including the parameters, tolerances, and flight conditions for FTD validation. Tolerances are provided for the listed tests because mathematical modeling and acquisition and development of reference data are often inexact. All tolerances listed in the following tables are applied to FTD performance. When two tolerance values are given for a parameter, the less restrictive may be used unless otherwise indicated.

c. Certain tests included in this attachment must be supported with a Statement of Compliance and Capability (SOC). In Table D2A, requirements for SOCs are indicated in the ''Test Details'' column.

d. When operational or engineering judgment is used in making assessments for flight test data applications for FTD validity, such judgment must not be limited to a single parameter. For example, data that exhibit rapid variations of the measured parameters may require interpolations or a ''best fit'' data section. All relevant parameters related to a given maneuver or flight condition must be provided to allow overall interpretation. When it is difficult or impossible to match FTD to helicopter data throughout a time history, differences must be justified by providing a comparison of other related variables for the condition being assessed.

e. The FTD may not be programmed so that the mathematical modeling is correct only at the validation test points. Unless noted otherwise, tests must represent helicopter performance and handling qualities at operating weights and centers of gravity (CG) typical of normal operation. If a test is supported by aircraft data at one extreme weight or CG, another test supported by aircraft data at mid-conditions or as close as possible to the other extreme is necessary. Certain tests that are relevant only at one extreme CG or weight condition need not be repeated at the other extreme. The results of the tests for Level 6 are expected to be indicative of the device's performance and handling qualities throughout all of the following:

(1) The helicopter weight and CG envelope.

(2) The operational envelope.

(3) Varying atmospheric ambient and environmental conditions—including the extremes authorized for the respective helicopter or set of helicopters.

f. When comparing the parameters listed to those of the helicopter, sufficient data must also be provided to verify the correct flight condition and helicopter configuration changes. For example, to show that control force is within the parameters for a static stability test, data to show the correct airspeed, power, thrust or torque, helicopter configuration, altitude, and other appropriate datum identification parameters must also be given. If comparing short period dynamics, normal acceleration may be used to establish a match to the helicopter, but airspeed, altitude, control input, helicopter configuration, and other appropriate data must also be given. If comparing landing gear change dynamics, pitch, airspeed, and altitude may be used to establish a match to the helicopter, but landing gear position must also be provided. All airspeed values must be properly annotated (e.g., indicated versus calibrated). In addition, the same variables must be used for comparison (e.g., compare inches to inches rather than inches to centimeters).

g. The QTG provided by the sponsor must clearly describe how the FTD will be set up and operated for each test. Each FTD subsystem may be tested independently, but overall integrated testing of the FTD must be accomplished to assure that the total FTD system meets the prescribed standards. A manual test procedure with explicit and detailed steps for completing each test must also be provided.

h. In those cases where the objective test results authorize a ''snapshot test'' or a ''series of snapshot test'' results in lieu of a time-history result, the sponsor or other data provider must ensure that a steady state condition exists at the instant of time captured by the ''snapshot.'' The steady state condition must exist from 4 seconds prior to, through 1 second following, the instant of time captured by the snap shot.

i. For previously qualified FTDs, the tests and tolerances of this attachment may be used in subsequent continuing qualification evaluations for any given test if the sponsor has submitted a proposed MQTG revision to the NSPM and has received NSPM approval.

j. Tests of handling qualities must include validation of augmentation devices. FTDs for highly augmented helicopters will be validated both in the unaugmented configuration (or failure state with the maximum permitted degradation in handling qualities) and the augmented configuration. Where various levels of handling qualities result from failure states, validation of the effect of the failure is necessary. For those performance and static handling qualities tests where the primary concern is control position in the unaugmented configuration, unaugmented data are not required if the design of the system precludes any effect on control position. In those instances where the unaugmented helicopter response is divergent and non-repeatable, it may not be feasible to meet the specified tolerances. Alternative requirements for testing will be mutually agreed upon by the sponsor and the NSPM on a case-by-case basis.

k. Some tests will not be required for helicopters using helicopter hardware in the FTD flight deck (e.g., ''helicopter modular controller''). These exceptions are noted in Section 2 ''Handling Qualities'' in Table D2A of this attachment. However, in these cases, the sponsor must provide a statement that the helicopter hardware meets the appropriate manufacturer's specifications and the sponsor must have supporting information to that fact available for NSPM review.

l. For objective test purposes, ''Near maximum'' gross weight is a weight chosen by the sponsor or data provider that is not less than the basic operating weight (BOW) of the helicopter being simulated plus 80% of the difference between the maximum certificated gross weight (either takeoff weight or landing weight, as appropriate for the test) and the BOW. ''Light'' gross weight is a weight chosen by the sponsor or data provider that is not more than 120% of the BOW of the helicopter being simulated or as limited by the minimum practical operating weight of the test helicopter. ''Medium'' gross weight is a weight chosen by the sponsor or data provider that is within 10 percent of the average of the numerical values of the BOW and the maximum certificated gross weight. BOW is the empty weight of the aircraft plus the weight of the following: Normal oil quantity; lavatory servicing fluid; potable water; required crewmembers and their baggage; and emergency equipment.

End QPS Requirements

Begin Information

Refer to Advisory Circular 120–27, ''Aircraft Weight and Balance;'' and FAA–H–8083–1, ''Aircraft Weight and Balance Handbook'' for more information.

End Information

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
1. Performance								
1.a. Engine Assessment								
1.a.1.	Start Operations.							

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
1.a.1.a.	Engine start and acceleration (transient).	Light Off Time—±10% or ±1 sec. Torque—±5% Rotor Speed—±3% Fuel Flow—±10% Gas Generator Speed—±5% Power Turbine Speed—±5% Gas Turbine Temp.—±30 °C.	Ground with the Rotor Brake Used and Not Used.	Record each engine start from the initiation of the start sequence to steady state idle and from steady state idle to operating RPM.		X	X	
1.a.1.b.	Steady State Idle and Operating RPM conditions.	Torque—±3% Rotor Speed—±1.5% Fuel Flow—±5% Gas Generator Speed—±2% Power Turbine Speed—±2% Turbine Gas Temp.—±20 °C.	Ground	Record both steady state idle and operating RPM conditions. May be a series of snapshot tests.	X	X	X	
1.a.2.	Power Turbine Speed Trim.	±10% of total change of power turbine speed.	Ground	Record engine response to trim system actuation in both directions.		X	X	
1.a.2.a.	Engine and Rotor Speed Governing.	Torque—±5% Rotor Speed—±1.5%.	Climb Descent ...	Record results using a step input to the collective. May be conducted concurrently with climb and descent performance tests.		X	X	
1.a.3.	Reserved.							
1.b. Reserved								
1.c. Takeoff								
1.c.1.	All Engines	Airspeed—±3 kt, Altitude—±20 ft (6.1 m) Torque—±3%, Rotor Speed—±1.5%, Vertical Velocity—±100 fpm (0.50 m/sec) or 10%, Pitch Attitude—±1.5°, Bank Attitude—±2°, Heading—±2°, Longitudinal Control Position—±10%, Lateral Control Position—±10%, Directional Control Position—±10%, Collective Control Position—±10%.	Ground/Takeoff and Initial Segment of Climb.	Record results of takeoff flight path (running takeoff and takeoff from a hover). The criteria apply only to those segments at airspeeds above effective translational lift. Results must be recorded from the initiation of the takeoff to at least 200 ft (61 m) AGL.			X	
1.c.2. through 1.c.3.	Reserved.							
1.d. Hover								

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
	Performance	Torque—±3%, Pitch Attitude—±1.5°, Bank Attitude—±1.5°, Longitudinal Control Position—±5%, Lateral Control Position—±5%, Directional Control Position—±5%, Collective Control Position—±5%.	In Ground Effect (IGE); and Out of Ground Effect (OGE).	Record results for light and heavy gross weights. May be a series of snapshot tests.			X	
1.e. Vertical Climb								
	Performance	Vertical Velocity—±100 fpm (0.50 m/sec) or ±10%, Directional Control Position—±5%, Collective Control Position—±5%.	From OGE Hover.	Record results for light and heavy gross weights. May be a series of snapshot tests.			X	
1.f. Level Flight								
	Performance and Trimmed Flight Control Positions.	Torque—±3% Pitch Attitude—±1.5° Sideslip Angle—±2° Longitudinal Control Position—±5% Lateral Control Position—±5% Directional Control Position—±5% Collective Control Position—±5%.	Cruise (Augmentation On and Off).	Record results for two gross weight and CG combinations with varying trim speeds throughout the airspeed envelope. May be a series of snapshot tests.	X	X	X	This test validates performance at speeds above maximum endurance airspeed.
1.g. Climb								
	Performance and Trimmed Flight Control Positions.	Vertical Velocity—±100 fpm (61m/sec) or ±10% Pitch Attitude—±1.5° Sideslip Angle—±2° Longitudinal Control Position—±5% Lateral Control Position—±5% Directional Control Position—±5% Collective Control Position—±5%.	All engines operating. One engine inoperative. Augmentation System(s) On and Off.	Record results for two gross weight and CG combinations. The data presented must be for normal climb power conditions. May be a series of snapshot tests.	X	X	X	
1.h. Descent								
1.h.1.	Descent Performance and Trimmed Flight Control Positions.	Torque—±3% Pitch Attitude—±1.5° Sideslip Angle—±2° Longitudinal Control Position—±5% Lateral Control Position—±5% Directional Control Position—±5% Collective Control Position—±5%.	At or near 1,000 fpm (5 m/sec) rate of descent (RoD) at normal approach speed. Augmentation System(s) On and Off.	Record results for two gross weight and CG combinations. May be a series of snapshot tests.	X	X	X	

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
1.h.2.	Autorotation Performance and Trimmed Flight Control Positions.	Pitch Attitude—±1.5° Sideslip Angle—±2° Longitudinal Control Position—±5% Lateral Control Position—±5% Directional Control Position—±5% Collective Control Position—±5%.	Steady descents. Augmentation System(s) On and Off.	Record results for two gross weight conditions. Data must be recorded for normal operating RPM. (Rotor speed tolerance applies only if collective control position is full down.) Data must be recorded for speeds from 50 kts., ±5 kts through at least maximum glide distance airspeed. May be a series of snapshot tests.	X	X	X	
1.i. Autorotation								
	Entry	Rotor Speed—±3% Pitch Attitude ±2° Roll Attitude—±3° Yaw Attitude—±5° Airspeed—±5 kts. Vertical Velocity—±200 fpm (1.00 m/sec) or 10%.	Cruise; or Climb	Record results of a rapid throttle reduction to idle. If accomplished in cruise, results must be for the maximum range airspeed. If accomplished in climb, results must be for the maximum rate of climb airspeed at or near maximum continuous power.		X	X	
1.j. Landing								

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
1.j.1.	All Engines	Airspeed—±3 kts., Altitude—±20 ft.(6.1 m) Torque—±3%, Rotor Speed—±1.5%, Pitch Attitude—±1.5°, Bank Attitude—±1.5°, Heading—±2°, Longitudinal Control Position—±10%, Lateral Control Position—±10%, Directional Control Position—±10%, Collective Control Position—±10%.	Approach	Record results of the approach and landing profile (running landing or approach to a hover). The criteria apply only to those segments at airspeeds above effective translational lift. Record the results from 200 ft. AGL (61 m) to the landing or to where the hover is established prior to landing.			X	
1.j.2. through 1.j.3.	Reserved.							
1.j.4.	Autorotational Landing.	Torque—±3%, Rotor Speed—±3%, Vertical Velocity—±100 fpm (0.50 m/sec) or 10%, Pitch Attitude—±2°, Bank Attitude—±2°, Heading—±5°, Longitudinal Control Position—±10%, Lateral Control Position—±10%, Directional Control Position—±10%, Collective Control Position—±10%.	Landing	Record the results of an autorotational deceleration and landing from a stabilized autorotational descent, to touch down.			X	
2. Handling Qualities								
2.a.	Control System Mechanical Characteristics.	Contact the NSPM for clarification of any issue regarding helicopters with reversible controls.						
2.a.1.	Cyclic	Breakout—±0.25 lbs. (0.112 daN) or 25%. Force—±1.0 lb. (0.224 daN) or 10%.	Ground; Static conditions. Trim On and Off. Friction Off. Augmentation On and off.	Record results for an uninterrupted control sweep to the stops. (This test does not apply if aircraft hardware modular controllers are used.)	X	X	X	
2.a.2.	Collective and Pedals.	Breakout—±0.5 lb. (0.224 daN) or 25%. Force—±1.0 lb. (0.224 daN) or 10%.	Ground; Static conditions. Trim On and Off. Friction Off Augmentation On and Off.	Record results for an uninterrupted control sweep to the stops.	X	X	X	

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
2.a.3.	Brake Pedal Force vs. Position.	±5 lbs. (2.224 daN) or 10%.	Ground; Static conditions.		X	X	X	
2.a.4.	Trim System Rate (all applicable systems).	Rate—±10%	Ground; Static conditions. Trim On Friction Off.	The tolerance applies to the recorded value of the trim rate.	X	X	X	
2.a.5.	Control Dynamics (all axes).	±10% of time for first zero crossing and ±10 (N+1)% of period thereafter. ±10% of amplitude of first overshoot. ±20% of amplitude of 2nd and subsequent overshoots greater than 5% of initial displacement. ±1 overshoot.	Hover/Cruise Trim On Friction Off.	Results must be recorded for a normal control displacement in both directions in each axis, using 25% to 50% of full throw.		X	X	Control Dynamics for irreversible control systems may be evaluated in a ground/static condition. Refer to paragraph 3 of this attachment for additional information. "N" is the sequential period of a full cycle of oscillation.
2.a.6.	Freeplay	±0.10 in	Ground; Static conditions.	Record and compare results for all controls.	X	X	X	
2.b. Low Airspeed Handling Qualities								
2.b.1.	Trimmed Flight Control Positions.	Torque ±3% Pitch Attitude ±1.5° Bank Attitude ±2° Longitudinal Control Position ±5% Lateral Control Position ±5% Directional Control Position ±5% Collective Control Position ±5%.	Translational Flight IGE—Sideward, rearward, and forward flight. Augmentation On and Off.	Record results for several airspeed increments to the translational airspeed limits and for 45 kts. forward airspeed. May be a series of snapshot tests.			X	
2.b.2.	Critical Azimuth	Torque ±3% Pitch Attitude ±1.5°, Bank Attitude ±2°, Longitudinal Control Position ±5%, Lateral Control Position ±5%, Directional Control Position ±5%, Collective Control Position ±5%.	Stationary Hover. Augmentation On and Off.	Record results for three relative wind directions (including the most critical case) in the critical quadrant. May be a series of snapshot tests.			X	
2.b.3.	Control Response.							

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
2.b.3.a.	Longitudinal	Pitch Rate—±10% or ±2°/sec. Pitch Attitude Change—±10% or 1.5°.	Hover. Augmentation On and Off.	Record results for a step control input. The Off-axis response must show correct trend for unaugmented cases. This test must be conducted in a hover, in ground effect, without entering translational flight.			X	This is a "short time" test.
2.b.3.c.	Directional	Yaw Rate—±10% or ±2°/sec. Heading Change—±10% or ±2°.	Hover Augmentation On and Off.	Record results for a step control input. The Off-axis response must show correct trend for unaugmented cases. This test must be conducted in a hover, in ground effect, without entering translational flight.			X	This is a "short time" test.
2.b.3.d.	Vertical	Normal Acceleration ±0.1g.	Hover	Record results for a step control input. The Off-axis response must show correct trend for unaugmented cases.			X	
2.c. Longitudinal Handling Qualities								
2.c.1.	Control Response.	Pitch Rate—±10% or ±2°/sec. Pitch Attitude Change—±10% or ±1.5°.	Cruise Augmentation On and Off.	Results must be recorded for two cruise airspeeds to include minimum power required speed. Record data for a step control input. The Off-axis response must show correct trend for unaugmented cases.	X	X	X	

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
2.c.2.	Static Stability	Longitudinal Control Position: ±10% of change from trim or ±0.25 in. (6.3 mm) or Longitudinal Control Force: ±0.5 lb. (0.223 daN) or ±10%.	Cruise or Climb. Autorotation. Augmentation On and Off.	Record results for a minimum of two speeds on each side of the trim speed. May be a series of snapshot tests.	X	X	X	
2.c.3.	Dynamic Stability.							
2.c.3.a.	Long Term Response.	±10% of calculated period. ±10% of time to ½ or double amplitude, or ±0.02 of damping ratio. For non-periodic responses, the time history must be matched within ±10% pitch; and ±10% airspeed over a 20 sec period following release of the controls.	Cruise Augmentation On and Off.	Record results for three full cycles (6 overshoots after input completed) or that sufficient to determine time to ½ or double amplitude, whichever is less. For non-periodic responses, the test may be terminated prior to 20 sec if the test pilot determines that the results are becoming uncontrollably divergent. Displace the cyclic for one second or less to excite the test. The result will be either convergent or divergent and must be recorded. If this method fails to excite the test, displace the cyclic to the predetermined maximum desired pitch attitude and return to the original position. If this method is used, record the results.	X	X	X	The response for certain helicopters may be unrepeatable throughout the stated time.
2.c.3.b.	Short Term Response.	±1.5° Pitch or ±2°/sec. Pitch Rate. ±0.1 g Normal Acceleration.	Cruise or Climb. Augmentation On and Off.	Record results for at least two airspeeds.		X	X	A control doublet inserted at the natural frequency of the aircraft normally excites this test.

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
2.c.4.	Maneuvering Stability.	Longitudinal Control Position—±10% of change from trim or ±0.25 in. (6.3 mm) or Longitudinal Control Forces—±0.5 lb. (0.223 daN) or ±10%.	Cruise or Climb. Augmentation On and Off.	Record results for at least two airspeeds at 30°–45° bank angle. The force may be shown as a cross plot for irreversible systems. May be a series of snapshot tests.		X	X	
2.d. Lateral and Directional Handling Qualities								
2.d.1.	Control Response.							
2.d.1.a	Lateral	Roll Rate—±10% or ±3°/sec. Roll Attitude Change—±10% or ±3°.	Cruise Augmentation On and Off.	Record results for at least two airspeeds, including the speed at or near the minimum power required airspeed. Record results for a step control input. The Off-axis response must show correct trend for unaugmented cases.	X	X	X	
2.d.1.b.	Directional	Yaw Rate—±10% or ±2°/sec. Yaw Attitude Change—±10% or ±2°.	Cruise Augmentation On and Off.	Record data for at least two Airspeeds, including the speed at or near the minimum power required airspeed. Record results for a step control input. The Off-axis response must show correct trend for unaugmented cases.	X	X	X	

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
2.d.2.	Directional Static Stability.	Lateral Control Position—±10% of change from trim or ±0.25 in. (6.3 mm) or Lateral Control Force—±0.5 lb. (0.223 daN) or 10%. Roll Attitude—±1.5 Directional Control Position—±10% of change from trim or ±0.25 in. (6.3 mm) or Directional Control Force—±1 lb. (0.448 daN) or 10%. Longitudinal Control Position—±10% of change from trim or ±0.25 in. (6.3 mm). Vertical Velocity—±100 fpm (0.50m/sec) or 10%.	Cruise; or Climb (may use Descent instead of Climb if desired) Augmentation On and Off.	Record results for at least two sideslip angles on either side of the trim point. The force may be shown as a cross plot for irreversible systems. May be a series of snapshot tests.	X	X	X	This is a steady heading sideslip test.
2.d.3.	Dynamic Lateral and Directional Stability.							
2.d.3.a.	Lateral-Directional Oscillations.	±0.5 sec. or ±10% of period. ±10% of time to ½ or double amplitude or ±0.02 of damping ratio. ±20% or ±1 sec of time difference between peaks of bank and sideslip.	Cruise or Climb Augmentation On/Off.	Record results for at least two airspeeds. The test must be initiated with a cyclic or a pedal doublet input. Record results for six full cycles (12 overshoots after input completed) or that sufficient to determine time to ½ or double amplitude, whichever is less. For non-periodic response, the test may be terminated prior to 20 sec if the test pilot determines that the results are becoming uncontrollably divergent.	X	X	X	

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
2.d.3.b.	Spiral Stability ...	±2° or ±10% roll angle	Cruise or Climb. Augmentation On and Off.	Record the results of a release from pedal only or cyclic only turns for 20 sec. Results must be recorded from turns in both directions. Terminate check at zero roll angle or when the test pilot determines that the attitude is becoming uncontrollably divergent.	X	X	X	
2.d.3.c.	Adverse/ Proverse Yaw.	Correct Trend, ±2° transient sideslip angle.	Cruise or Climb. Augmentation On and Off.	Record the time history of initial entry into cyclic only turns, using only a moderate rate for cyclic input. Results must be recorded for turns in both directions.	X	X	X	
3. Reserved								
4. Visual System								
4.a. Visual System Response Time: (Choose either test 4.a.1. or 4.a.2. to satisfy test 4.a., Visual System Response Time Test. This test is also sufficient for flight deck instrument response timing.)								
4.a.1.	Latency.							
		150 ms (or less) after helicopter response.	Takeoff, climb, and descent.	One test is required in each axis (pitch, roll and yaw) for each of the three conditions (take-off, cruise, and approach or landing).			X	
4.a.2.	Transport Delay.							
		150 ms (or less) after controller movement.	N/A	A separate test is required in each axis (pitch, roll, and yaw).			X	
4.b. Field of View								
4.b.1.	Reserved.							

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
4.b.2.	Continuous visual field of view.	Minimum continuous field of view providing 146° horizontal and 36° vertical field of view for each pilot simultaneously and any geometric error between the Image Generator eye point and the pilot eye point is 8° or less.	N/A	An SOC is required and must explain the geometry of the installation. Horizontal field of view must not be less than a total of 146° (including not less than 73° measured either side of the center of the design eye point). Additional horizontal field of view capability may be added at the sponsor's discretion provided the minimum field of view is retained. Vertical field of view: Not less than a total of 36° measured from the pilot's and co-pilot's eye point.			X	Horizontal field of view is centered on the zero degree azimuth line relative to the aircraft fuselage.
4.b.3.	Reserved.							
4.c.	Surface contrast ratio.	Not less than 5:1	N/A	The ratio is calculated by dividing the brightness level of the center, bright square (providing at least 2 foot-lamberts or 7 cd/m^2) by the brightness level of any adjacent dark square.			X	Measurements may be made using a 1° spot photometer and a raster drawn test pattern filling the entire visual scene (all channels) with a test pattern of black and white squares, 5 per square, with a white square in the center of each channel. During contrast ratio testing, simulator aft-cab and flight deck ambient light levels should be zero.

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
4.d.	Highlight brightness.	Not less than three (3) foot-lamberts (10 cd/m^2).	N/A	Measure the brightness of the center white square while superimposing a highlight on that white square. The use of calligraphic capabilities to enhance the raster brightness is acceptable, but measuring light points is not acceptable.			X	Measurements may be made using a 1° spot photometer and a raster drawn test pattern filling the entire visual scene (all channels) with a test pattern of black and white squares, 5 per square, with a white square in the center of each channel.
4.e.	Surface resolution.	Not greater than two (2) arc minutes.	N/A	An SOC is required and must include the relevant calculations.			X	The eye will subtend two (2) arc minutes when positioned on a 3° glide slope, 6,876 ft slant range from the centrally located threshold of a black runway surface painted with white threshold bars that are 16 ft wide with 4-foot gaps between the bars. This requirement is the same as 4 arc minutes per optical line pair.
4.f.	Light point size	Not greater than five (5) arc-minutes.	N/A	An SOC is required and must include the relevant calculations.			X	Light point size may be measured using a test pattern consisting of a centrally located single row of light points reduced in length until modulation is just discernible in each visual channel. A row of 48 lights will form a 4° angle or less.

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
4.g.	Light point contrast ratio.							A 1° spot photometer may be used to measure a square of at least 1° filled with light points (where light point modulation is just discernible) and compare the results to the measured adjacent background. During contrast ratio testing, simulator aft-cab and flight deck ambient light levels should be zero.
4.g.1.	Reserved.							
4.g.2.		Not less than 25:1	N/A	An SOC is required and must include the relevant calculations.			X	
4.h. Visual ground segment								
		The visible segment in the simulator must be within 20% of the segment computed to be visible from the helicopter flight deck. The tolerance(s) may be applied at either end or at both ends of the displayed segment. However, lights and ground objects computed to be visible from the helicopter flight deck at the near end of the visible segment must be visible in the simulator.	Landing configuration, trimmed for appropriate airspeed, at 100 ft (30 m) above the touchdown zone, on glide slope with an RVR value set at 1,200 ft (350 m).	The QTG must contain relevant calculations and a drawing showing the data used to establish the helicopter location and the segment of the ground that is visible considering design eyepoint, helicopter attitude, flight deck cutoff angle, and a visibility of 1200 ft (350 m) RVR. Simulator performance must be measured against the QTG calculations. The data submitted must include at least the following:			X	Pre-position for this test is encouraged, but may be achieved via manual or autopilot control to the desired position.

TABLE D2A.—FLIGHT TRAINING DEVICE (FTD) OBJECTIVE TESTS—Continued

<<<QPS requirements>>>								<<Information>> Notes
Test		Tolerances	Flight conditions	Test details	FTD level			
Number	Title				5	6	7	
				(1) Static helicopter dimensions as follows: (i) Horizontal and vertical distance from main landing gear (MLG) to glideslope reception antenna. (ii) Horizontal and vertical distance from MLG to pilot's eyepoint. (iii) Static flight deck cutoff angle. (2) Approach data as follows: (i) Identification of runway. (ii) Horizontal distance from runway threshold to glideslope intercept with runway. (iii) Glideslope angle. (iv) Helicopter pitch angle on approach. (3) Helicopter data for manual testing: (i) Gross weight. (ii) Helicopter configuration. (iii) Approach airspeed. If non-homogenous fog is used to obscure visibility, the vertical variation in horizontal visibility must be described and be included in the slant range visibility calculation used in the computations.				

5. Reserved

Begin Information

3. Control Dynamics

a. The characteristics of a helicopter flight control system have a major effect on the handling qualities. A significant consideration in pilot acceptability of a helicopter is the ''feel'' provided through the flight deck controls. Considerable effort is expended on helicopter feel system design in order to deliver a system with which pilots will be comfortable and consider the helicopter desirable to fly. In order for an FTD to be representative, it too must present the pilot with the proper feel; that of the respective helicopter.

(1) Recordings such as free response to an impulse or step function are classically used to estimate the dynamic properties of electromechanical systems. It is only possible to estimate the dynamic properties as a result of only being able to estimate true inputs and responses. Therefore, it is imperative that the best possible data be collected since close matching of the FTD control loading system to the helicopter systems is essential. Control feel dynamic tests are described in the Table of Objective Tests in this appendix. Where accomplished, the free response is measured after a step or pulse input is used to excite the system.

(2) For initial and upgrade evaluations, it is required that control dynamic characteristics be measured at and recorded directly from the flight deck controls. This procedure is usually accomplished by measuring the free response of the controls using a step or pulse input to excite the system. The procedure must be accomplished in hover, climb, cruise, and autorotation. For helicopters with irreversible control systems, measurements may be obtained on the ground. Proper pitot-static inputs (if appropriate) must be provided to represent airspeeds typical of those encountered in flight.

(3) It may be shown that for some helicopters, climb, cruise, and autorotation have like effects. Thus, some tests for one may suffice for some tests for another. If either or both considerations apply, engineering validation or helicopter manufacturer rationale must be submitted as justification for ground tests or for eliminating a configuration. For FTDs requiring static and dynamic tests at the controls, special test fixtures will not be required during initial and upgrade evaluations if the sponsor's QTG shows both test fixture results and the results of an alternative approach, such as computer plots which were produced concurrently and show satisfactory agreement. Repeat of the alternative method during the initial evaluation would then satisfy this test requirement.

b. Control Dynamics Evaluations. The dynamic properties of control systems are often stated in terms of frequency, damping, and a number of other classical measurements which can be found in texts on control systems. In order to establish a consistent means of validating test results for FTD control loading, criteria are needed that will clearly define the interpretation of the measurements and the tolerances to be applied. Criteria are needed for both the underdamped system and the overdamped system, including the critically damped case. In the case of an underdamped system with very light damping, the system may be quantified in terms of frequency and damping. In critically damped or overdamped systems, the frequency and damping is not readily measured from a response time history. Therefore, some other measurement must be used.

(1) Tests to verify that control feel dynamics represent the helicopter must show that the dynamic damping cycles (free response of the control) match that of the helicopter within specified tolerances. The method of evaluating the response and the tolerance to be applied are described below for the underdamped and critically damped cases.

(a) Underdamped Response. Two measurements are required for the period, the time to first zero crossing (in case a rate limit is present) and the subsequent frequency of oscillation. It is necessary to measure cycles on an individual basis in case there are nonuniform periods in the response. Each period will be independently compared to the respective period of the helicopter control system and, consequently, will enjoy the full tolerance specified for that period.

(b) The damping tolerance will be applied to overshoots on an individual basis. Care must be taken when applying the tolerance to small overshoots since the significance of such overshoots becomes questionable. Only those overshoots larger than 5 percent of the total initial displacement will be considered significant. The residual band, labeled $T(A_d)$ on Figure 1 of this attachment is ±5 percent of the initial displacement amplitude, A_d, from the steady state value of the oscillation. Oscillations within the residual band are considered insignificant. When comparing simulator data to helicopter data, the process would begin by overlaying or aligning the simulator and helicopter steady state values and then comparing amplitudes of oscillation peaks, the time of the first zero crossing, and individual periods of oscillation. To be satisfactory, the simulator must show the same number of significant overshoots to within one when compared against the helicopter data. The procedure for evaluating the response is illustrated in Figure 1 of this attachment.

(c) Critically Damped and Overdamped Response. Due to the nature of critically damped responses (no overshoots), the time to reach 90 percent of the steady state (neutral point) value must be the same as the helicopter within ±10 percent. The simulator response must be critically damped also. Figure 2 of this attachment illustrates the procedure.

(d) Special considerations. Control systems that exhibit characteristics other than classical overdamped or underdamped responses should meet specified tolerances. In addition, special consideration should be given to ensure that significant trends are maintained.

(2) Tolerances.

(a) The following summarizes the tolerances, ''T'' for underdamped systems, and ''n'' is the sequential period of a full cycle of oscillation. See Figure D2A of this attachment for an illustration of the referenced measurements.

$T(P_0)$	±10% of P_0
$T(P_1)$	±20% of P_1
$T(P_2)$	±30% of P_2
$T(P_n)$	±10(n+1)% of P_n
$T(A_n)$	±10% of A_1
$T(A_d)$	±5% of A_d = residual band
Significant overshoots.	First overshoot and ±1 subsequent overshoots

(b) The following tolerance applies to critically damped and overdamped systems only. See Figure D2B for an illustration of the reference measurements:

$T(P_0)$ ..... ±10% of P_0

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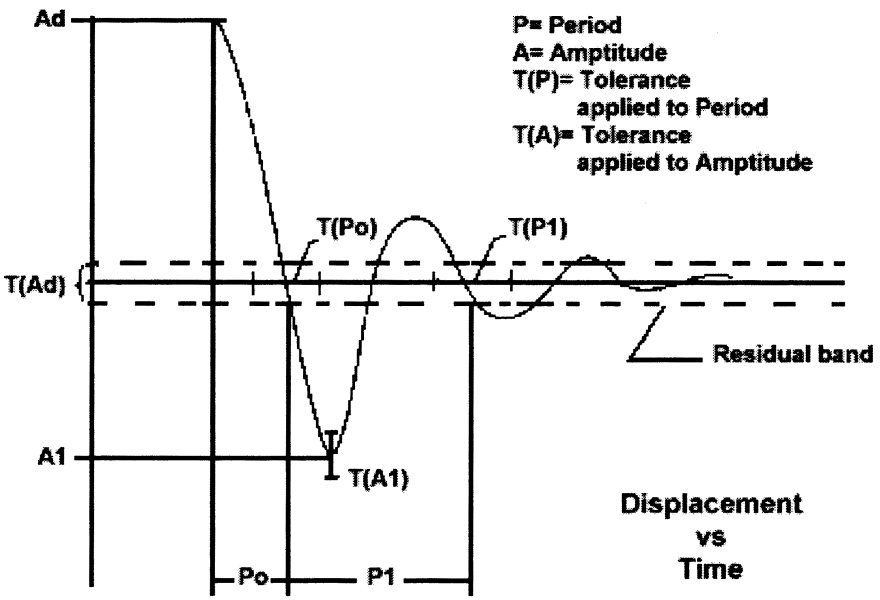
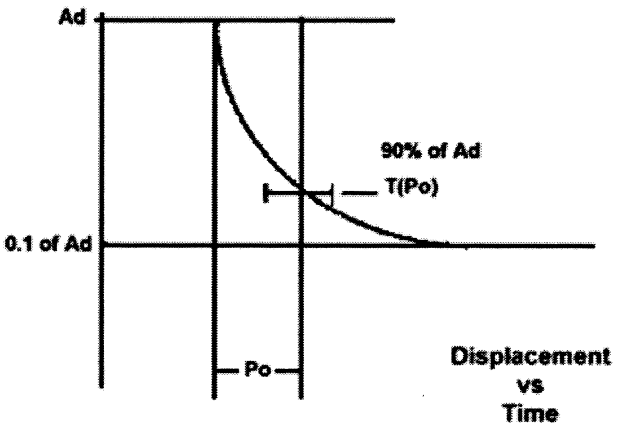
Attachment 2 to Appendix D to Part 60—Figure D2A. Under-Damped Step Response



Attachment 2 to Appendix D to Part 60—Figure D2B. Critically-Damped Step Response



End Information

Begin QPS Requirement

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c. Alternative method for control dynamics evaluation.

(1) An alternative means for validating control dynamics for aircraft with hydraulically powered flight controls and artificial feel systems is by the measurement of control force and rate of movement. For each axis of pitch, roll, and yaw, the control must be forced to its maximum extreme position for the following distinct rates. These tests are conducted at under normal flight and ground conditions.

(a) Static test—Slowly move the control so that a full sweep is achieved within 95–105 seconds. A full sweep is defined as movement of the controller from neutral to the stop, usually aft or right stop, then to the opposite stop, then to the neutral position.

(b) Slow dynamic test—Achieve a full sweep within 8–12 seconds.

(c) Fast dynamic test—Achieve a full sweep within 3–5 seconds.

Note: Dynamic sweeps may be limited to forces not exceeding 100 lbs. (44.5 daN).

(d) Tolerances

(i) Static test; see Table D2A, Flight Training Device (FTD) Objective Tests, Items 2.a.1., 2.a.2., and 2.a.3.

(ii) Dynamic test—±2 lbs (0.9 daN) or ±10% on dynamic increment above static test.

End QPS Requirement

Begin Information

d. The FAA is open to alternative means that are justified and appropriate to the application. For example, the method described here may not apply to all manufacturers' systems and certainly not to aircraft with reversible control systems. Each

case is considered on its own merit on an ad hoc basis. If the FAA finds that alternative methods do not result in satisfactory performance, more conventionally accepted methods will have to be used.

4. For Additional Information on the Following Topics, Please Refer to Appendix C, Attachment 2, and the Indicated Paragraph Within That Attachment

- Additional Information About Flight Simulator Qualification for New or Derivative Helicopters, paragraph 8.
- Engineering Simulator Validation Data, paragraph 9.
- Validation Test Tolerances, paragraph 11.
- Validation Data Road Map, paragraph 12.
- Acceptance Guidelines for Alternative Avionics, paragraph 13.
- Transport Delay Testing, paragraph 14.
- Continuing Qualification Evaluation Validation Data Presentation, paragraph 15.

End Information

Attachment 3 to Appendix D to Part 60—Flight Training Device (FTD) Subjective Evaluation

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Begin QPS Requirements

1. Requirements

a. Except for special use visual scenes and airport models described below, all visual scenes and airport models required by this part must be representations of real-world, operational airports or representations of fictional airports and must meet the requirements set out in Tables D3B and D3C of this attachment, as appropriate.

b. If fictional airports are used, the sponsor must ensure that navigational aids and all appropriate maps, charts, and other navigational reference material for the fictional airports (and surrounding areas as necessary) are compatible, complete, and accurate with respect to the visual presentation and scene content of the visual model of this fictional airport. An SOC must be submitted that addresses navigation aid installation and performance and other criteria (including obstruction clearance protection) for all instrument approaches to the fictional airports that are available in the simulator. The SOC must reference and account for information in the terminal instrument procedures manual and the construction and availability of the required maps, charts, and other navigational material. This material must be clearly marked ''for training purposes only.''

c. When the simulator is being used by an instructor or evaluator for purposes of training, checking, or testing under this chapter, only visual scenes and airport models classified as Class I, Class II, or Class III may be available to the instructor or evaluator. The classifications are as follows:

(1) Class I (whether modeling real world airports or fictional airports), for those visual scenes and airport models used for FTD qualification at a specified level. These visual scenes and airport models must meet the minimum requirements in Table D3B of this attachment, be evaluated by the NSPM, be listed on the Statement of Qualification(SOQ), and be available for use at the FTD IOS.

(2) Class II (whether modeling real world airports or fictional airports), for those visual scenes and airport models that are in excess of those used for FTD qualification at a specified level. These visual scenes and airport models must meet the minimum requirements set out in Table C3C of this attachment. These visual scenes and airport models may be made available on the FTD IOS without further involvement of the NSPM or the TPAA.

(3) For an interim period ending (2 years after date of publication of the final rule in the **Federal Register**), Class III visual scenes and airport models (whether modeling real world airports, generic airports, or fictional airports) may be approved for specific purposes by the TPAA or a foreign regulatory authority for a foreign user of the device. Examples of approved activities include specific airport or runway qualification, very low visibility operations training, including Surface Movement Guidance System (SMGS) operations, or use of a specific airport visual model aligned with an instrument procedure for another airport for instrument training. At the end of the interim period, all Class III visual scenes and airport models must be classified as either a Class I or a Class II visual scene or airport model or be removed from availability at the simulator IOS. However, Class III visual scenes and airport models may continue to be used after the end of the interim period if they are part of a training program specifically approved by the TPAA or other regulatory authority that uses a task and capability analysis as the basis for approval of this specific media element, (i.e., the specific scene or model selected for use in that program).

d. When a person sponsors an FSTD maintained by a person other than a U.S. certificate holder, the sponsor is accountable for that FSTD originally meeting, and continuing to meet, the criteria under which it was originally qualified and the appropriate Part 60 criteria, including the visual scenes and airport models that may be used by instructors or evaluators for purposes of training, checking, or testing under this chapter.

e. Neither Class II nor Class III airport visual models are required to appear on the SOQ. However, the sponsor is accountable that the FSTD originally meets, and continues to meet, the visual scene and airport model requirements for Class II or Class III visual scenes and airport models that may be used by instructors or evaluators for training, checking, or testing under this chapter.

f. When the visual scenes and airport models represent real world airports and a permanent change is made to that real world airport (e.g., a new runway, an extended taxiway, a new lighting system, a runway closure) without a written extension grant from the NSPM (described below), an update to that visual scene or airport model must be made in accordance with the following time limits:

(1) For a new airport runway, a runway extension, a new airport taxiway, a taxiway extension, or a runway/taxiway closure—within 60 days of the opening for use of the new airport runway, runway extension, new airport taxiway, or taxiway extension; or within 60 days of the closure of the runway or taxiway.

(2) For a new or modified approach light system—within 30 days of the activation of the new or modified approach light system.

(3) For other facility or structural changes on the airport (e.g., new terminal, relocation of Air Traffic Control Tower)—within 6 months of the opening of the new or changed facility or structure.

g. If a sponsor desires an extension to the time limit for an update to a visual scene or airport model, the sponsor must provide a written extension request to the POI/TCPM stating the reason for the update delay and a proposed completion date. A copy of this request must also be sent to the NSPM. The sponsor will forward a copy of the POI/TCPM's response to the NSPM. If the POI/TCPM has granted an extension, the NSPM will issue an extension authorization, not to exceed an additional 12 months.

End QPS Requirements

Begin Information

2. Discussion

a. The subjective tests and the examination of functions provide a basis for evaluating the capability of the FTD to perform over a typical utilization period; determining that the FTD satisfactorily meets the appropriate training/testing/checking objectives and competently simulates each required maneuver, procedure, or task; and verifying correct operation of the FTD controls, instruments, and systems. The items in the list of operations tasks are for FTD evaluation purposes only. They must not be used to limit or exceed the authorizations for use of a given level of FTD as found in the Practical Test Standards or as may be approved by the TPAA. All items in the following paragraphs are subject to an examination of function.

b. The List of Operations Tasks addressing pilot functions and maneuvers is divided by flight phases. All simulated helicopter systems functions will be assessed for normal and, where appropriate, alternate operations. Normal, abnormal, and emergency operations associated with a flight phase will be assessed during the evaluation of maneuvers or events within that flight phase.

c. Systems to be evaluated are listed separately under ''Any Flight Phase'' to ensure appropriate attention to systems checks. Operational navigation systems (including inertial navigation systems, global positioning systems, or other long-range systems) and the associated electronic display systems will be evaluated if installed. The NSP pilot will include in his report to the TPAA, the effect of the system operation and any system limitation.

d. At the request of the TPAA, the NSP Pilot may assess the FTD for a special aspect of a sponsor's training program during the functions and subjective portion of an evaluation. Such an assessment may include a portion of a specific operation (e.g., a Line Oriented Flight Training (LOFT) scenario) or

special emphasis items in the sponsor's training program. Unless directly related to a requirement for the qualification level, the results of such an evaluation would not necessarily affect the qualification of the FTD.

e. The FAA intends to allow the use of Class III visual scenes and airport models on a limited basis when the sponsor provides the TPAA (or other regulatory authority) an appropriate analysis of the skills, knowledge, and abilities (SKAs) necessary for competent performance of the tasks in which this particular media element is used. The analysis should describe the ability of the FSTD/visual media to provide an adequate environment in which the required SKAs may be satisfactorily performed and learned. The analysis should also include the specific media element, such as the visual scene or airport model. Additional sources of information on the conduct of task and capability analysis may be found on the FAA's Advanced Qualification Program (AQP) Web site at: *http://www.faa.gov/education_research/training/aqp/*.

End Information

TABLE D3A.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD

<<<QPS requirements>>>	
Number	Operations tasks
Tasks in this table are subject to evaluation if appropriate for the helicopter simulated as indicated in the SOQ Configuration List or a Level 7 FTD. Items not installed, not functional on the FTD, and not appearing on the SOQ Configuration List, are not required to be listed as exceptions on the SOQ.	
1. Preflight Procedures	
1.a.	Preflight Inspection (Flight Deck Only) switches, indicators, systems, and equipment.
1.b.	APU/Engine start and run-up.
1.b.1.	Normal start procedures.
1.b.2.	Alternate start procedures.
1.b.3.	Abnormal starts and shutdowns (hot start, hung start).
1.b.4.	Rotor engagement.
1.b.5.	System checks.
1.c.	Taxiing—Ground.
1.c.1.	Power required to taxi.
1.c.2.	Brake effectiveness.
1.c.3.	Ground handling.
1.c.4.	Abnormal/emergency procedures, for example:
1.c.4.a.	Brake system failure.
1.c.4.b.	Ground resonance.
1.c.4.c.	Other (as may be listed on the Statement of Qualification).
1.d.	Taxiing—Hover.
1.d.1.	Takeoff to a hover.
1.d.2.	Instrument response.
1.d.2.a.	Engine instruments.
1.d.2.a.	Flight instruments.
1.d.3.	Hovering turns.
1.d.4.	Hover power checks.
1.d.4.a.	In ground effect (IGE).
1.d.4.b.	Out of ground effect (OGE).
1.d.5.	Crosswind/tailwind hover.
1.d.6.	Abnormal/emergency procedures:
1.d.6.a.	Engine failure.

TABLE D3A.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
1.d.6.b.	Fuel governing system failure.
1.d.6.c.	Settling with power (OGE).
1.d.6.d.	Stability augmentation system failure.
1.d.6.e.	Directional control malfunction (including Loss of Tail Rotor Effectiveness, LTE).
1.d.6.f.	Other (as may be listed on the Statement of Qualification).
1.e.	Pre-takeoff Checks.
2. Takeoff and Departure Phase	
2.a.	Normal and Crosswind Takeoff.
2.a.1.	From ground.
2.a.2.	From hover.
2.a.3.	Running.
2.a.4.	Crosswind/tailwind.
2.a.5.	Maximum performance.
2.b.	Instrument.
2.c.	Powerplant Failure During Takeoff.
2.c.1.	Takeoff with engine failure after critical decision point (CDP).
2.d.	Rejected Takeoff.
2.e.	Instrument Departure.
2.f.	Other (as may be listed on the Statement of Qualification).
3. Climb	
3.a.	Normal.
3.b.	Obstacle clearance.
3.c.	Vertical.
3.d.	One engine inoperative.
3.e.	Other (as may be listed on the Statement of Qualification).
4. Inflight Maneuvers	
4.a.	Performance.
4.b.	Flying qualities.
4.c.	Turns.
4.c.1.	Timed.
4.c.2.	Normal.
4.c.3.	Steep.
4.d.	Accelerations and decelerations.
4.e.	High-speed vibrations.
4.f.	Abnormal/emergency procedures, for example:
4.f.1.	Engine fire.

TABLE D3A.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
4.f.2.	Engine failure.
4.f.2.a.	Powerplant Failure—Multiengine Helicopters.
4.f.2.b.	Powerplant Failure—Single-Engine Helicopters.
4.f.3.	In-flight engine shutdown (and restart, if applicable).
4.f.4.	Fuel governing system failures (e.g., FADEC malfunction).
4.f.5.	Directional control malfunction.
4.f.6.	Hydraulic failure.
4.f.7.	Stability augmentation system failure.
4.f.8.	Rotor vibrations.
4.f.9.	Recovery From Unusual Attitudes.
4.f.10.	Settling with Power.
4.g.	Other (as may be listed on the Statement of Qualification).
5. Instrument Procedures	
5.a.	Instrument Arrival.
5.b.	Holding.
5.c.	Precision Instrument Approach.
5.c.1.	Normal—All engines operating.
5.c.2.	Manually controlled—One or more engines inoperative.
5.c.3.	Approach procedures:
5.c.3.a.	PAR.
5.c.3.b.	GPS.
5.c.3.c.	ILS.
5.c.3.c.1.	Manual (raw data).
5.c.3.c.2.	Autopilot* only.
5.c.3.c.3.	Flight director only.
5.c.3.c.4.	Autopilot* and flight director (if appropriate) coupled.
5.c.3.d.	Other (as may be listed on the Statement of Qualification).
5.d.	Non-precision Instrument Approach.
5.d.1.	Normal—All engines operating.
5.d.2.	One or more engines inoperative.
5.d.3.	Approach procedures:
5.d.3.a.	NDB.
5.d.3.b.	VOR, RNAV, TACAN, GPS.
5.d.3.c.	ASR.
5.d.3.d.	Circling.
5.d.3.e.	Helicopter only.

TABLE D3A.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
5.d.3.f.	Other (as may be listed on the Statement of Qualification.
5.e.	Missed Approach.
5.e.1.	All engines operating.
5.e.2.	One or more engines inoperative.
5.e.3.	Stability augmentation system failure.
5.e.4.	Other (as may be listed on the Statement of Qualification).
6. Landings and Approaches to Landings	
6.a.	Visual Approaches.
6.a.1.	Normal.
6.a.2.	Steep.
6.a.3.	Shallow.
6.a.4.	Crosswind.
6.b.	Landings.
6.b.1.	Normal.
6.b.1.a.	Running.
6.b.1.b.	From Hover.
6.b.2.	Crosswind.
6.b.3.	Tailwind.
6.b.4.	One or more engines inoperative.
6.b.5.	Rejected Landing.
6.b.6.	Other (as may be listed on the Statement of Qualification).
7. Normal and Abnormal Procedures (any phase of flight)	
7.a.	Helicopter and powerplant systems operation (as applicable).
7.a.1.	Anti-icing/deicing systems.
7.a.2.	Auxiliary power-plant.
7.a.3.	Communications.
7.a.4.	Electrical system.
7.a.5.	Environmental system.
7.a.6.	Fire detection and suppression.
7.a.7.	Flight control system.
7.a.8.	Fuel system.
7.a.9.	Engine oil system.
7.a.10.	Hydraulic system.
7.a.11.	Landing gear.
7.a.12.	Oxygen.
7.a.13.	Pneumatic.

TABLE D3A.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
7.a.14.	Powerplant.
7.a.15.	Flight control computers.
7.a.16.	Fly-by-wire controls.
7.a.17.	Stabilizer.
7.a.18.	Stability augmentation and control augmentation system(s).
7.a.19.	Other (as may be listed on the Statement of Qualification).
7.b.	Flight management and guidance system (as applicable).
7.b.1.	Airborne radar.
7.b.2.	Automatic landing aids.
7.b.3.	Autopilot*.
7.b.4.	Collision avoidance system.
7.b.5.	Flight data displays.
7.b.6.	Flight management computers.
7.b.7.	Head-up displays.
7.b.8.	Navigation systems.
7.b.9.	Other (as may be listed on the Statement of Qualification).
8. Emergency procedures (as applicable)	
8.a.	Autorotative Landing.
8.b.	Air hazard avoidance.
8.c.	Ditching.
8.d.	Emergency evacuation.
8.e.	Inflight fire and smoke removal.
8.f.	Retreating blade stall recovery.
8.g.	Mast bumping.
8.h.	Loss of tail rotor effectiveness.
8.i.	Other (as may be listed on the Statement of Qualification).
9. Postflight Procedures	
9.a.	After-Landing Procedures.
9.b.	Parking and Securing.
9.b.1.	Engine and systems operation.
9.b.2.	Parking brake operation.
9.b.3.	Rotor brake operation.
9.b.4.	Abnormal/emergency procedures.
10. Instructor Operating Station (IOS), as appropriate	
10.a.	Power Switch(es).
10.b.	Helicopter conditions.

TABLE D3A.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
10.b.1.	Gross weight, center of gravity, fuel loading and allocation, etc.
10.b.2.	Helicopter systems status.
10.b.3.	Ground crew functions (e.g., ext. power).
10.c.	Airports.
10.c.1.	Selection.
10.c.2.	Runway selection.
10.c.3.	Preset positions (e.g., ramp, over final approach fix).
10.d.	Environmental controls.
10.d.1.	Temperature.
10.d.2.	Climate conditions (e.g., ice, rain).
10.d.3.	Wind speed and direction.
10.e.	Helicopter system malfunctions.
10.e.1.	Insertion/deletion.
10.e.2.	Problem clear.
10.f.	Locks, Freezes, and Repositioning.
10.f.1.	Problem (all) freeze/release.
10.f.2.	Position (geographic) freeze/release.
10.f.3.	Repositioning (locations, freezes, and releases).
10.f.4.	Ground speed control.
10.g.	Sound Controls.
10.g.1.	On/off/adjustment.
10.h.	Control Loading System (as applicable).
10.h.1.	On/off/emergency stop.
10.i.	Observer Stations.
10.i.1.	Position.
10.i.2.	Adjustments.

*''Autopilot'' means attitude retention mode of operation.

TABLE D3B.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD

<<<QPS requirements>>>	
Number	Visual scene content requirements for qualification at Level 7
This table specifies the minimum airport visual model content and functionality to qualify an FTD at the indicated level. This table applies only to the airport/helicopter landing area scenes required for FTD qualification.	
1.	**Functional test content** requirements for Level 7 Flight Training Devices.
	The following is the minimum airport/landing area model content requirement to satisfy visual capability tests, and provides suitable visual cues to allow completion of all functions and subjective tests described in this attachment for FTDs at Levels 7.
1.a.	A minimum of one (1) representative airport and one (1) representative helicopter landing area model.

TABLE D3B.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD—Continued

<<<QPS requirements>>>	
Number	Visual scene content requirements for qualification at Level 7
	The airport and the helicopter landing area may be contained within the same visual model. If this option is selected, the approach path to the airport runway(s) and the approach path to the helicopter landing area must be different. The model(s) used to meet the following requirements may be demonstrated at either a fictional or a real-world airport or helicopter landing area, but each must be acceptable to the sponsor's TPAA, selectable from the IOS, and listed on the Statement of Qualification.
1.b.	Fidelity of the Visual Scene. The fidelity of the visual scene must be sufficient for the aircrew to visually identify the airport and/or helicopter landing area; determine the position of the simulated helicopter within the visual scene; successfully accomplish take-offs, approaches, and landings; and maneuver around the airport and/or helicopter landing area on the ground, or hover taxi, as necessary.
1.b.1.	For each of the airport/helicopter landing areas described in 1.a., the FTD visual system must be able to provide at least the following:
1.b.1.a.	A night and twilight (dusk) environment.
1.b.1.b.	A daylight environment.
1.c.	Runways:
1.c.1.	Visible runway number.
1.c.2.	Runway threshold elevations and locations must be modeled to provide sufficient correlation with helicopter systems (e.g., altimeter).
1.c.3.	Runway surface and markings.
1.c.4.	Lighting for the runway in use including runway edge and centerline.
1.c.5.	Lighting, visual approach aid (VASI or PAPI) and approach lighting of appropriate colors.
1.c.6.	Taxiway lights.
1.d.	Helicopter landing area.
1.d.1.	Standard heliport designation ("H") marking, properly sized and oriented.
1.d.2.	Perimeter markings for the Touchdown and Lift-Off Area (TLOF) or the Final Approach and Takeoff Area (FATO), as appropriate.
1.d.3.	Perimeter lighting for the TLOF or the FATO areas, as appropriate.
1.d.4.	Appropriate markings and lighting to allow movement from the runway or helicopter landing area to another part of the landing facility.
2.	**Visual scene management.** The following is the minimum visual scene management requirements for a Level 7 FTD.
2.a.	Runway and helicopter landing area approach lighting must fade into view appropriately in accordance with the environmental conditions set in the FTD.
2.b.	The direction of strobe lights, approach lights, runway edge lights, visual landing aids, runway centerline lights, threshold lights, touchdown zone lights, and TLOF or FATO lights must be replicated.
3.	**Visual feature recognition.** The following are the minimum distances at which runway features must be visible. Distances are measured from runway threshold or a helicopter landing area to a helicopter aligned with the runway or helicopter landing area on an extended 3° glide-slope in simulated meteorological conditions. For circling approaches, all tests apply to the runway used for the initial approach and to the runway of intended landing.
3.a.	For runways: runway definition, strobe lights, approach lights, and edge lights from 5 sm (8 km) of the threshold.
3.b.	For runways: centerline lights and taxiway definition from 3 sm (5 km).
3.c.	For runways: Visual Approach Aid lights (VASI or PAPI) from 3 sm (5 km) of the threshold.
3.d.	For runways: Visual Approach Aid lights (VASI or PAPI) from 5 sm (8 km) of the threshold.
3.e.	For runways: runway threshold lights and touchdown zone from 2 sm (3 km).

TABLE D3B.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD—Continued

<<<QPS requirements>>>	
Number	Visual scene content requirements for qualification at Level 7
3.f.	For runways and helicopter landing areas: markings within range of landing lights for night/twilight scenes and the surface resolution test on daylight scenes, as required.
3.g.	For circling approaches: the runway of intended landing and associated lighting must fade into view in a non-distracting manner.
3.h.	For helicopter landing areas: landing direction lights and raised FATO lights from 1 sm (1.5 km).
3.i.	For helicopter landing areas: Flush mounted FATO lights, TOFL lights, and the lighted windsock from 0.5 sm (750 m).
4.	**Airport or Helicopter Landing Area Model Content.** The following prescribes the minimum requirements for an airport/helicopter landing area visual model and identifies other aspects of the environment that must correspond with that model for a Level 7 FTD. For circling approaches, all tests apply to the runway used for the initial approach and to the runway of intended landing. If all runways or landing areas in a visual model used to meet the requirements of this attachment are not designated as ''in use,'' then the ''in use'' runways/landing areas must be listed on the Statement of Qualification (e.g., KORD, Rwys 9R, 14L, 22R). Models of airports or helicopter landing areas with more than one runway or landing area must have all significant runways or landing areas not ''in-use'' visually depicted for airport/runway/landing area recognition purposes. The use of white or off white light strings that identify the runway or landing area for twilight and night scenes are acceptable for this requirement; and rectangular surface depictions are acceptable for daylight scenes. A visual system's capabilities must be balanced between providing visual models with an accurate representation of the airport and a realistic representation of the surrounding environment. Each runway or helicopter landing area designated as an ''in-use'' runway or area must include the following detail that is either modeled using airport/heliport pictures, construction drawings and maps, U.S. National Imagery and Mapping Agency data other appropriate data, or modeled in accordance with published regulatory material.
4.a.	The surface and markings for each ''in-use'' runway or helicopter landing area must include the following:
4.a.1.	For airports: runway threshold markings, runway numbers, touchdown zone markings, fixed distance markings, runway edge markings, and runway centerline stripes.
4.a.2.	For helicopter landing areas: markings for standard heliport identification (''H'') and TOFL, FATO, and safety areas.
4.b.	The lighting for each ''in-use'' runway or helicopter landing area must include the following:
4.b.1.	For airports: runway approach, threshold, edge, end, centerline (if applicable), touchdown zone (if applicable), leadoff, and visual landing aid lights or light systems for that runway.
4.b.2.	For helicopter landing areas: landing direction, raised and flush FATO, TOFL, windsock lighting.
4.c.	The taxiway surface and markings associated with each ''in-use'' runway or helicopter landing area must include the following:
4.c.1.	For airports: taxiway edge, centerline (if appropriate), runway hold lines, and ILS critical area(s).
4.c.2.	For helicopter landing areas: taxiways, taxi routes, and aprons.
4.d.	The taxiway lighting associated with each ''in-use'' runway or helicopter landing area must include the following:
4.d.1.	For airports: taxiway edge, centerline (if appropriate), runway hold lines, ILS critical areas.
4.d.2.	For helicopter landing areas: taxiways, taxi routes, and aprons.
4.d.3.	For airports: taxiway lighting of correct color.
4.e.	Airport signage associated with each ''in-use'' runway or helicopter landing area must include the following:
4.e.1.	For airports: signs for runway distance remaining, intersecting runway with taxiway, and intersecting taxiway with taxiway.
4.e.2.	For helicopter landing areas: as may be appropriate for the model used.
4.f.	Required visual model correlation with other aspects of the airport or helicopter landing environment simulation:
4.f.1.	The airport or helicopter landing area model must be properly aligned with the navigational aids that are associated with operations at the ''in-use'' runway or helicopter landing area.
4.f.2.	The simulation of runway or helicopter landing area contaminants must be correlated with the displayed runway surface and lighting, if applicable.
5.	**Correlation with helicopter and associated equipment.** The following are the minimum correlation comparisons that must be made for a Level 7 FTD.
5.a.	Visual system compatibility with aerodynamic programming.

TABLE D3B.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD—Continued

<<<QPS requirements>>>	
Number	Visual scene content requirements for qualification at Level 7
5.b.	Visual cues to assess sink rate and depth perception during landings.
5.c.	Accurate portrayal of environment relating to FTD attitudes.
5.d.	The visual scene must correlate with integrated helicopter systems, where fitted (e.g., terrain, traffic and weather avoidance systems and Head-up Guidance System (HGS)).
5.e.	Representative visual effects for each visible, own-ship, helicopter external light(s).
5.f.	The effect of rain removal devices.
6.	**Scene quality.** The following are the minimum scene quality tests that must be conducted for a Level 7 FTD.
6.a.	System light points should be free from distracting jitter, smearing or streaking.
6.b.	Demonstration of occulting through each channel of the system in an operational scene.
6.c.	Six discrete light step controls (0–5).
7.	Special weather representations, which include visibility and RVR, measured in terms of distance. Visibility/RVR checked at 2,000 ft (600 m) above the airport or helicopter landing area and at two heights below 2,000 ft with at least 500 ft of separation between the measurements. The measurements must be taken within a radius of 10 sm (16 km) from the airport or helicopter landing area.
7.a.	Effects of fog on airport lighting such as halos and defocus.
7.b.	Effect of own-ship lighting in reduced visibility, such as reflected glare, including landing lights, strobes, and beacons.
8.	**Instructor control of the following:** The following are the minimum instructor controls that must be available in a Level 7 FTD.
8.a.	Environmental effects: e.g., cloud base, cloud effects, cloud density, visibility in statute miles/kilometers and RVR in feet/meters.
8.b.	Airport or helicopter landing area selection.
8.c.	Airport or helicopter landing area lighting, including variable intensity.
8.d.	Dynamic effects including ground and flight traffic.
End QPS Requirement	
Begin Information	
9.	An example of being able to ''combine two airport models to achieve two ''in-use'' runways: One runway designated as the ''in-use'' runway in the first model of the airport, and the second runway designated as the ''in-use'' runway in the second model of the same airport. For example, the clearance is for the ILS approach to Runway 27, Circle to Land on Runway 18 right. Two airport visual models might be used: the first with Runway 27 designated as the ''in use'' runway for the approach to runway 27, and the second with Runway 18 Right designated as the ''in use'' runway. When the pilot breaks off the ILS approach to runway 27, the instructor may change to the second airport visual model in which runway 18 Right is designated as the ''in use'' runway, and the pilot would make a visual approach and landing. This process is acceptable to the FAA as long as the temporary interruption due to the visual model change is not distracting to the pilot.
10.	Sponsors are not required to provide every detail of a runway, but the detail that is provided should be correct within reasonable limits.
End Information	

TABLE D3C.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD

<<<QPS requirements>>>	
Number	Visual scene content requirements additional visual models beyond minimum required for qualification
This table specifies the minimum airport or helicopter landing area visual model content and functionality necessary to add visual models to an FTD's visual model library (i.e., beyond those necessary for qualification at the stated level) without the necessity of further involvement of the NSPM or TPAA.	
1.	**Visual scene management.** The following is the minimum visual scene management requirements.

TABLE D3C.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD—Continued

<<<QPS requirements>>>	
Number	Visual scene content requirements additional visual models beyond minimum required for qualification
1.a.	The installation and direction of the following lights must be replicated for the ''in-use'' surface:
1.a.1.	For ''in-use'' runways: strobe lights, approach lights, runway edge lights, visual landing aids, runway centerline lights, threshold lights, and touchdown zone lights.
1.a.2.	For ''in-use'' helicopter landing areas: ground level TLOF perimeter lights, elevated TLOF perimeter lights (if applicable), Optional TLOF lights (if applicable), ground FATO perimeter lights, elevated TLOF lights (if applicable), landing direction lights.
2.	**Visual feature recognition.** The following are the minimum distances at which runway or landing area features must be visible. Distances are measured from runway threshold or a helicopter landing area to an aircraft aligned with the runway or helicopter landing area on a 3° glide-slope from the aircraft to the touchdown point, in simulated meteorological conditions. For circling approaches, all tests apply to the runway used for the initial approach and to the runway of intended landing.
2.a.	For Runways.
2.a.1.	Strobe lights, approach lights, and edge lights from 5 sm (8 km) of the threshold.
2.a.2.	Centerline lights and taxiway definition from 3 sm (5 km).
2.a.3.	Visual Approach Aid lights (VASI or PAPI) from 3 sm (5 km) of the threshold.
2.a.4.	Visual Approach Aid lights (VASI or PAPI) from 5 sm (8 km) of the threshold.
2.a.5.	Threshold lights and touchdown zone lights from 2 sm (3 km).
2.a.6.	Markings within range of landing lights for night/twilight (dusk) scenes and as required by the surface resolution test on daylight scenes.
2.a.7.	For circling approaches, the runway of intended landing and associated lighting must fade into view in a non-distracting manner.
2.b.	For Helicopter landing areas.
2.b.1.	Landing direction lights and raised FATO lights from 2 sm (3 km).
2.b.2.	Flush mounted FATO lights, TOFL lights, and the lighted windsock from 1 sm (1500 m).
2.b.3.	Hover taxiway lighting (yellow/blue/yellow cylinders) from TOFL area.
2.b.4.	Markings within range of landing lights for night/twilight (dusk) scenes and as required by the surface resolution test on daylight scenes.
3.	**Airport or Helicopter Landing Area Model Content.** The following prescribes the minimum requirements for what must be provided in an airport visual model and identifies other aspects of the airport environment that must correspond with that model. The detail must be modeled using airport pictures, construction drawings and maps, U.S. National Imagery and Mapping Agency data or other data, or modeled in accordance with published regulatory material; however, this does not require that airport or helicopter landing area models contain details that are beyond the designed capability of the currently qualified visual system. For circling approaches, all requirements of this section apply to the runway used for the initial approach and to the runway of intended landing.
3.a.	The surface and markings for each ''in-use'' runway or helicopter landing area must include the following:
3.a.1.	For airports: runway threshold markings, runway numbers, touchdown zone markings, fixed distance markings, runway edge markings, and runway centerline stripes.
3.a.2.	For helicopter landing areas: Standard heliport marking (''H''), TOFL, FATO, and safety areas.
3.b.	The lighting for each ''in-use'' runway or helicopter landing area must include the following:
3.b.1.	For airports: runway approach, threshold, edge, end, centerline (if applicable), touchdown zone (if applicable), leadoff, and visual landing aid lights or light systems for that runway.
3.b.2.	For helicopter landing areas: landing direction, raised and flush FATO, TOFL, windsock lighting.
3.c.	The taxiway surface and markings associated with each ''in-use'' runway or helicopter landing area must include the following:
3.c.1.	For airports: taxiway edge, centerline (if appropriate), runway hold lines, and ILS critical area(s),
3.c.2.	For helicopter landing areas: taxiways, taxi routes, and aprons.
3.d.	The taxiway lighting associated with each ''in-use'' runway or helicopter landing area must include the following:

TABLE D3C.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 7 FTD—Continued

<<<QPS requirements>>>	
Number	Visual scene content requirements additional visual models beyond minimum required for qualification
3.d.1.	For airports: runway edge, centerline (if appropriate), runway hold lines, ILS critical areas.
3.d.2.	For helicopter landing areas: taxiways, taxi routes, and aprons.
4.	**Required visual model correlation with other aspects of the airport environment simulation.** The following are the minimum visual model correlation tests that must be conducted for Level 7 FTD.
4.a.	The airport model must be properly aligned with the navigational aids that are associated with operations at the ''in-use'' runway.
4.b.	Slopes in runways, taxiways, and ramp areas must not cause distracting or unrealistic effects.
5.	**Correlation with helicopter and associated equipment.** The following are the minimum correlation comparisons that must be made.
5.a.	Visual system compatibility with aerodynamic programming.
5.b.	Accurate portrayal of environment relating to flight simulator attitudes.
5.c.	Visual cues to assess sink rate and depth perception during landings.
6.	**Scene quality.** The following are the minimum scene quality tests that must be conducted.
6.a.	Light points free from distracting jitter, smearing or streaking.
6.b.	Surfaces and textural cues free from apparent quantization (aliasing).
7.	**Instructor controls of the following.** The following are the minimum instructor controls that must be available.
7.a.	Environmental effects, e.g., cloud base (if used), cloud effects, cloud density, visibility in statute miles/kilometers and RVR in feet/meters.
7.b.	Airport/Heliport selection.
7.c.	Airport/Heliport lighting including variable intensity.
7.d.	Dynamic effects including ground and flight traffic.
End QPS Requirements	
Begin Information	
8.	Sponsors are not required to provide every detail of a runway or helicopter landing area, but the detail that is provided must be correct within the capabilities of the system.
End Information	

TABLE D3D.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 6 FTD

<<<QPS requirements>>>	
Number	Operations tasks
Tasks in this table are subject to evaluation if appropriate for the helicopter simulated as indicated in the SOQ Configuration List or for a Level 6 FTD. Items not installed or not functional on the FTD and not appearing on the SOQ Configuration List, are not required to be listed as exceptions on the SOQ.	
1. Preflight Procedures	
1.a.	Preflight Inspection (Flight Deck Only) switches, indicators, systems, and equipment.
1.b.	APU/Engine start and run-up.
1.b.1.	Normal start procedures.
1.b.2.	Alternate start procedures.
1.b.3.	Abnormal starts and shutdowns.

TABLE D3D.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 6 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
1.b.4.	Rotor engagement.
1.b.5.	System checks.
2. Takeoff and Departure Phase	
2.a.	Instrument.
2.b.	Takeoff with engine failure after critical decision point (CDP).
3. Climb	
3.a.	Normal.
3.b.	One engine inoperative.
4. Inflight Maneuvers	
4.a.	Performance.
4.b.	Flying qualities.
4.c.	Turns.
4.c.1.	Timed.
4.c.2.	Normal.
4.c.3.	Steep.
4.d.	Accelerations and decelerations.
4.e.	Abnormal/emergency procedures:
4.e.1.	Engine fire.
4.e.2.	Engine failure.
4.e.3.	In-flight engine shutdown (and restart, if applicable).
4.e.4.	Fuel governing system failures (e.g., FADEC malfunction).
4.e.5.	Directional control malfunction (restricted to the extent that the maneuver may not terminate in a landing).
4.e.6.	Hydraulic failure.
4.e.7.	Stability augmentation system failure.
5. Instrument Procedures	
5.a.	Holding.
5.b.	Precision Instrument Approach.
5.b.1.	All engines operating.
5.b.2.	One or more engines inoperative.
5.b.3.	Approach procedures:
5.b.4.	PAR.
5.b.5.	ILS.
5.b.6.	Manual (raw data).
5.b.7.	Flight director only.
5.b.8.	Autopilot* and flight director (if appropriate) coupled.
5.c.	Non-precision Instrument Approach.

TABLE D3D.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 6 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
5.c.	Normal—All engines operating.
5.c.	One or more engines inoperative.
5.c.	Approach procedures:
5.c.1.	NDB.
5.c.2.	VOR, RNAV, TACAN, GPS.
5.c.3.	ASR.
5.c.4.	Helicopter only.
5.d.	Missed Approach.
5.d.1.	All engines operating.
5.d.2.	One or more engines inoperative.
5.d.3.	Stability augmentation system failure.
6. Normal and Abnormal Procedures (any phase of flight)	
6.a.	Helicopter and powerplant systems operation (as applicable).
6.a.1.	Anti-icing/deicing systems.
6.a.2.	Auxiliary power-plant.
6.a.3.	Communications.
6.a.4.	Electrical system.
6.a.5.	Environmental system.
6.a.6.	Fire detection and suppression.
6.a.7.	Flight control system.
6.a.8.	Fuel system.
6.a.9.	Engine oil system.
6.a.10.	Hydraulic system.
6.a.11.	Landing gear.
6.a.12.	Oxygen.
6.a.13.	Pneumatic.
6.a.14.	Powerplant.
6.a.15.	Flight control computers.
6.a.16.	Stability augmentation and control augmentation system(s).
6.b.	Flight management and guidance system (as applicable).
6.b.1.	Airborne radar.
6.b.2.	Automatic landing aids.
6.b.3.	Autopilot.*
6.b.4.	Collision avoidance system.
6.b.5.	Flight data displays.
6.b.6.	Flight management computers.

TABLE D3D.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 6 FTD—Continued

<<<QPS requirements>>>	
Number	Operations tasks
6.b.7.	Navigation systems.
7. Postflight Procedures	
7.a.	Parking and Securing.
7.b.	Engine and systems operation.
7.c.	Parking brake operation.
7.d.	Rotor brake operation.
7.e.	Abnormal/emergency procedures.
8. Instructor Operating Station (IOS), as appropriate	
8.a.	Power Switch(es).
8.b.1.	Helicopter conditions.
8.b.2.	Gross weight, center of gravity, fuel loading and allocation, etc.
8.b.3.	Helicopter systems status.
8.b.4.	Ground crew functions (e.g., ext. power).
8.c.	Airports and landing areas.
8.c.1.	Number and selection.
8.c.2.	Runway or landing area selection.
8.c.3.	Preset positions (e.g., ramp, over FAF).
8.c.4.	Lighting controls.
8.d.	Environmental controls.
8.d.1.	Temperature.
8.d.2.	Climate conditions (e.g., ice, rain).
8.d.3.	Wind speed and direction.
8.e.	Helicopter system malfunctions.
8.e.1.	Insertion/deletion.
8.e.2.	Problem clear.
8.f.	Locks, Freezes, and Repositioning.
8.f.1.	Problem (all) freeze/release.
8.f.2.	Position (geographic) freeze/release.
8.f.3.	Repositioning (locations, freezes, and releases).
8.f.4.	Ground speed control.
8.g.	Sound Controls. On/off/adjustment.
8.h.	Control Loading System (as applicable On/off/emergency stop.)
8.i.	Observer Stations.
8.i.1.	Position.
8.i.2.	Adjustments.

* "Autopilot" means attitude retention mode of operation.

TABLE D3E.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 5 FTD

<<<QPS requirements>>>	
Number	Operations tasks
Tasks in this table are subject to evaluation if appropriate for the helicopter simulated as indicated in the SOQ Configuration List or for a Level 5 FTD. Items not installed or not functional on the FTD and not appearing on the SOQ Configuration List, are not required to be listed as exceptions on the SOQ.	
1. Preflight Procedures	
1.a.	Preflight Inspection (Flight Deck Only) switches, indicators, systems, and equipment.
1.b.	APU/Engine start and run-up.
1.b.1.	Normal start procedures.
1.b.2.	Alternate start procedures.
1.b.3.	Abnormal starts and shutdowns.
2. Climb	
2.a.	Normal.
3. Inflight Maneuvers	
3.a.	Performance.
3.b.	Turns, Normal.
4. Instrument Procedures	
4.a.	Coupled instrument approach maneuvers (as applicable for the systems installed).
5. Normal and Abnormal Procedures (any phase of flight)	
5.a.	Normal system operation (Installed systems).
5.b.	Abnormal/Emergency system operation (installed systems).
6. Postflight Procedures	
6.a.	Parking and Securing.
6.b.	Engine and systems operation.
6.c.	Parking brake operation.
6.d.	Rotor brake operation.
6.e.	Abnormal/emergency procedures.
7. Instructor Operating Station (IOS), as appropriate	
7.a.	Power Switch(es).
7.b.	Preset positions (ground; air)
7.c.	Helicopter system malfunctions.
7.c.1.	Insertion / deletion.
7.c.2.	Problem clear.
7.d.	Control Loading System (as applicable) On / off / emergency stop.
7.e.	Observer Stations.
7.e1.	Position.
7.e.2.	Adjustments.

TABLE D3F.—TABLE OF FUNCTIONS AND SUBJECTIVE TESTS LEVEL 4 FTD

<<<QPS requirements>>>	
Number	Operations tasks
Tasks in this table are subject to evaluation if appropriate for the helicopter simulated as indicated in the SOQ Configuration List or for a Level 4 FTD. Items not installed or not functional on the FTD and not appearing on the SOQ Configuration List, are not required to be listed as exceptions on the SOQ.	
1. Preflight Procedures	
1.a.	Preflight Inspection (Flight Deck Only) switches, indicators, systems, and equipment.
1.b.	APU/Engine start and run-up.
1.b.1.	Normal start procedures.
1.b.2.	Alternate start procedures.
1.b.3.	Abnormal starts and shutdowns.
2. Normal and Abnormal Procedures (any phase of flight)	
2.a.	Normal system operation (Installed systems).
2.b.	Abnormal/Emergency system operation (installed systems).
3. Postflight Procedures	
3.a.	Parking and Securing.
3.b.	Engine and systems operation.
3.c.	Parking brake operation.
4. Instructor Operating Station (IOS), as appropriate	
4.a.	Power Switch(es).
4.b.	Preset positions (ground; air)
4.c.	Helicopter system malfunctions.
4.c.1.	Insertion / deletion.
4.c.2.	Problem clear.

Attachment 4 to Appendix D to Part 60—Sample Documents

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BILLING CODE 4910–13–P

Attachment 4 to Appendix D to Part 60—
Figure D4A – Sample Letter, Request for Initial, Upgrade, or Reinstatement Evaluation
INFORMATION

Date _____

Mr. Charles A. Spillner
Manager, National Simulator Program
Federal Aviation Administration
100 Hartsfield Centre Parkway
Suite 400
Atlanta, GA 30354

Dear Mr. Spillner:

RE: Request for Initial/Upgrade Evaluation Date

This is to advise you of our intent to request an (initial or upgrade) evaluation of our (FSTD Manufacturer), (Aircraft Type/Level) Flight Simulation Training Device (FSTD), (FAA ID Number, if previously qualified), located in (City, State) at the (Facility) on (Proposed Evaluation Date). (The proposed evaluation date shall not be more than 180 days following the date of this letter.) The FSTD will be sponsored by (Name of Training Center/Air Carrier), FAA Designator (4 Letter Code). The FSTD will be sponsored as follows; (Select One)

☐ The FSTD will be used within the sponsor's FAA approved training program and placed on the sponsor's Training/Operations Specifications.

☐ The FSTD will be used for dry lease only.

We agree to provide the formal request for the evaluation to your staff as follows: (check one)

☐ For QTG tests run at the factory, not later, than 45 days prior to the proposed evaluation date with the additional "1/3 on-site" tests provided not later than 14 days prior to the proposed evaluation date.

☐ For QTG tests run on-site, not later than 30 days prior to the proposed evaluation date.

We understand that the formal request will contain the following documents:

10. Sponsor's Letter of Request (*Company Compliance Letter*).
11. Principal Operations Inspector (POI) or Training Center Program Manager's (TCPM) endorsement.
12. Complete QTG.

If we are unable to meet the above requirements, we understand this may result in a significant delay, perhaps 45 days or more, in rescheduling and completing the evaluation.

(The sponsor should add additional comments as necessary).

Please contact (Name Telephone and Fax Number of Sponsor's Contact) to confirm the date for this initial evaluation. We understand a member of your National Simulator Program staff will respond to this request within 14 days.

A copy of this letter of intent has been provided to (Name), the Principal Operations Inspector (POI) and/or Training Center Program Manager (TCPM).

Sincerely,

Attachment: FSTD Information Form
cc: POI/TCPM

Attachment 4 to Appendix D to Part 60—
Figure D4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form
INFORMATION

Date: ____			
Section 1. FSTD Information and Characteristics			
Sponsor Name:	____	**FSTD Location:**	
Address:	____ ____	**Physical Address:**	____ ____
City:	____	**City:**	____
State:	____	**State:**	____
Country:	____	**Country:**	____
ZIP:	____	**ZIP:**	____
Manager	____		
Sponsor ID No: *(Four Letter FAA Designator)*	____	**Nearest Airport:** *(Airport Designator)*	____

Type of Evaluation Requested:			☐ **Initial** ☐ **Upgrade** ☐ **Recurrent** ☐ **Special** ☐ **Reinstatement**		
Qualification Basis: ____	☐ **A**	☐ **B**	☐ **Interim C**	☐ **C**	☐ **D**
	☐ **6**	☐ **7**	☐ **Provisional Status**		

Initial Qualification: (If Applicable)	**Date:** ____ **Level** ____	**Manufacturer's Identification/Serial No:**	____
Upgrade Qualification: (If Applicable)	**Date:** ____ **Level** ____ MM/DD/YYYY	☐ **eQTG**	

Other Technical Information:			
FAA FSTD ID No: (If Applicable)	____	**FSTD Manufacturer:**	____
Convertible FSTD:	☐**Yes:**	**Date of Manufacture:**	____ MM/DD/YYYY
Related FAA ID No. (If Applicable)	____ ____ ____	**Sponsor FSTD ID No:** ____	
Aircraft model/series: ____		**Source of aerodynamic model:** ____	
Engine model(s) and data revision: ____		**Source of aerodynamic doefficient data:** ____	
FMS identification and revision level: ____		**Aerodynamic data revision number:** ____	
Visual system manufacturer/model: ____		**Visual system display:** ____	
Flight control data revision: ____		**FSTD computer(s) identification:** ____	
Motion system manufacturer/type: ____			

National Aviation Authority (NAA): (If Applicable)	____		____
NAA FSTD ID No:	____	**Last NAA Evaluation Date:**	____
NAA Qualification Level:	____		
NAA Qualification Basis:	____		

Attachment 4 to Appendix D to Part 60—
Figure D4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form

INFORMATION

Visual System Manufacturer and Type:	_____	**Motion System Manufacturer and Type:**	_____
Aircraft Make/Model/Series:	_____	**FSTD Seats Available:**	_____

Aircraft Equipment	**ENGINE TYPE(S):** _____	**Flight Instrumentation:** ☐ **EFIS** ☐ **HUD** ☐ **HGS** ☐ **EFVS** ☐ **TCAS** ☐ **GPWS** ☐ **Plain View** ☐ **GPS** ☐ **FMS Type:** _____ ☐ **WX Radar** ☐ **Other:** _____	Engine Instrumentation: ☐ **EICAS** ☐ **FADEC** ☐ **Other:** _____

Airport Models:	3.6.1 _____ *Airport Designator*	3.6.2_____ *Airport Designator*	3.6.3 _____ *Airport Designator*
Circle to Land:	3. 7.1 _____ *Airport Designator*	3. 7.2_____ *Approach*	3. 7.3 _____ *Landing Runway*
Visual Ground Segment	3.8.1 _____ *Airport Designator*	3.8 .2_____ *Approach*	3. 8.3 _____ *Landing Runway*

Section 2. Supplementary Information

FAA Training Program Approval Authority:		☐ **POI** ☐ **TCPM** ☐ **Other:** _____	
Name:	_____	**Office:**	_____
Tel:	_____	**Fax:**	_____
Email:	_____		

FSTD Scheduling Person:			
Name:	_____		
Address 1:	_____	**Address 2**	_____
City:	_____	**State:**	_____
ZIP:	_____	**Email:**	_____
Tel:	_____	**Fax:**	_____

FSTD Technical Contact:			
Name:	_____		
Address 1:	_____	**Address 2**	_____
City:	_____	**State:**	_____
ZIP:	_____	**Email:**	_____
Tel:	_____	**Fax:**	_____

Attachment 4 to Appendix D to Part 60—
Figure D4B – Sample Letter , Request for Initial, Upgrade, or Reinstatement Evaluation
Attachment: FSTD Information Form
INFORMATION

Section 3. Training, Testing and Checking Considerations		
Area/Function/Maneuver	**Requested**	**Remarks**
Private Pilot - Training / Checks: (142)	☐	_____
Commercial Pilot - Training /Checks:(142)	☐	_____
Multi-Engine Rating - Training / Checks (142)	☐	_____
Instrument Rating -Training / Checks (142)	☐	_____
Type Rating - Training / Checks (135/121/142)	☐	_____
Proficiency Checks (135/121/142)	☐	_____
CAT I: (RVR 2400/1800 ft. DH200 ft)	☐	_____
CAT II: (RVR 1200 ft. DH 100 ft)	☐	_____
CAT III * (lowest minimum) _____ RVR _____ ft. * *State CAT III (≤ 700 ft.), CAT IIIb (≤ 150 ft.), or CAT IIIc (0 ft.)*	☐	_____
Circling Approach	☐	_____
Windshear Training:	☐	_____
Windshear Training IAW 121.409(d) (121 Turbojets Only)	☐	_____
Generic Unusual Attitudes and Recoveries within the Normal Flight Envelope	☐	_____
Specific Unusual Attitudes Recoveries	☐	_____
Auto-coupled Approach/Auto Go Around	☐	_____
Auto-land / Roll Out Guidance	☐	_____
TCAS/ACAS I / II	☐	_____
WX-Radar	☐	_____
HUD	☐	_____
HGS	☐	
EFVS	☐	
Future Air Navigation Systems	☐	_____
GPWS / EGPWS	☐	_____
ETOPS Capability	☐	_____
GPS	☐	_____
SMGCS	☐	_____
Helicopter Slope Landings	☐	_____
Helicopter External Load Operations	☐	_____
Helicopter Pinnacle Approach to Landings	☐	_____
Helicopter Night Vision Maneuvers	☐	_____
Helicopter Category A Takeoffs	☐	_____

Attachment 4 to Appendix D to Part 60—
Figure D4C – Sample Qualification Test Guide Cover Page

INFORMATION

SPONSOR NAME

SPONSOR ADDRESS

FAA QUALIFICATION TEST GUIDE

(SPECIFIC HELICOPTER MODEL)

(*for example*)

(Vertiflite AB-320)

(FTD Identification Including Manufacturer, Serial Number, Visual System Used)

(FTD Level)

(Qualification Performance Standard Used)

(FTD Location)

FAA Initial Evaluation

Date: _____

_____ Date: _____
(Sponsor)

_____ Date: _____
Manager, National Simulator Program, FAA

Attachment 4 to Appendix D to Part 60—
Figure D4D – Sample Statement of Qualification - Certificate

INFORMATION

Federal Aviation Administration
National Simulator Program

Certificate of Qualification

This is to certify that representatives of the National Simulator Program
Completed an evaluation of the

Go-Fast Training Center
Vertiflite AB-320 Flight Training Device
FAA Identification Number 889

And found it to meet the standards set forth in
14 CFR Part 60, Appendix D
Qualification Performance Standards

The Master Qualification Test Guide and the attached
Configuration List and List of Qualified Tasks
Provide the Qualification Basis for this device to operate at
Level 6
Until April 30, 2010

Unless sooner rescinded or extended by the National Simulator Program Manager

March 15, 2009 — *C. Nordlie*

(date) — (for the NSPM)

Attachment 4 to Appendix D to Part 60—
Figure D4E – Sample Statement of Qualification – Configuration List
INFORMATION

Date: _____			
Section 1. FSTD Information and Characteristics			
Sponsor Name:	_____	**FSTD Location:**	
Address:	_____ _____	**Physical Address:**	_____ _____
City:	_____	**City:**	_____
State:	_____	**State:**	_____
Country:	_____	**Country:**	_____
ZIP:	_____	**ZIP:**	_____
Manager	_____		
Sponsor ID No: *(Four Letter FAA Designator)*	_____	**Nearest Airport:** *(Airport Designator)*	_____
Type of Evaluation Requested:		☐ **Initial** ☐ **Upgrade** ☐ **Recurrent** ☐ **Special** ☐ **Reinstatement**	
Qualification Basis: _____	☐ **A**	☐ **B**	☐ **Interim C** ☐ **C** ☐ **D**
	☐ **6**	☐ **7**	☐ **Provisional Status**
Initial Qualification: (If Applicable)	**Date:** _____ **Level** _____	**Manufacturer's Identification/Serial No:**	_____
Upgrade Qualification: (If Applicable)	**Date:** _____ **Level** _____ MM/DD/YYYY	☐ **eQTG**	
Other Technical Information:			
FAA FSTD ID No: (If Applicable)	_____	**FSTD Manufacturer:**	_____
Convertible FSTD:	☐ **Yes:**	**Date of Manufacture:**	_____ MM/DD/YYYY
Related FAA ID No. (If Applicable)	_____ _____ _____	**Sponsor FSTD ID No:** _____	
Aircraft model/series: _____		**Source of aerodynamic model:** _____	
Engine model(s) and data revision: _____		**Source of aerodynamic doefficient data:** _____	
FMS identification and revision level: _____		**Aerodynamic data revision number:** _____	
Visual system manufacturer/model: _____		**Visual system display:** _____	
Flight control data revision: _____		**FSTD computer(s) identification:** _____	
Motion system manufacturer/type: _____			
National Aviation Authority (NAA): (If Applicable)	_____		_____
NAA FSTD ID No:	_____	**Last NAA Evaluation Date:**	_____
NAA Qualification Level:	_____		
NAA Qualification Basis:	_____		
Visual System Manufacturer and Type:	_____	**Motion System Manufacturer and Type:**	_____

Attachment 4 to Appendix D to Part 60—
Figure D4E – Sample Statement of Qualification – Configuration List
INFORMATION

Aircraft Make/Model/Series:	_____	**FSTD Seats Available:**	_____

Aircraft Equipment	**ENGINE TYPE(S):** _____	**Flight Instrumentation:** ☐ **EFIS** ☐ **HUD** ☐ **HGS** ☐ **EFVS** ☐ **TCAS** ☐ **GPWS** ☐ **Plain View** ☐ **GPS** ☐ **FMS Type:** _____ ☐ **WX Radar** ☐ **Other:** _____	Engine Instrumentation: ☐ **EICAS** ☐ **FADEC** ☐ **Other:** _____

Airport Models:	3.6.1 _____ *Airport Designator*	3.6.2_____ *Airport Designator*	3.6.3 _____ *Airport Designator*
Circle to Land:	3. 7.1 _____ *Airport Designator*	3. 7.2_____ *Approach*	3. 7.3 _____ *Landing Runway*
Visual Ground Segment	3.8.1 _____ *Airport Designator*	3.8 .2_____ *Approach*	3. 8.3 _____ *Landing Runway*

Section 2. Supplementary Information

FAA Training Program Approval Authority:		☐ **POI** ☐ **TCPM** ☐ **Other:** _____	
Name:	_____	**Office:**	_____
Tel:	_____	**Fax:**	_____
Email:	_____		

FSTD Scheduling Person:			
Name:	_____		
Address 1:	_____	**Address 2**	_____
City:	_____	**State:**	_____
ZIP:	_____	**Email:**	_____
Tel:	_____	**Fax:**	_____

FSTD Technical Contact:			
Name:	_____		
Address 1:	_____	**Address 2**	_____
City:	_____	**State:**	_____
ZIP:	_____	**Email:**	_____
Tel:	_____	**Fax:**	_____

Section 3. Training, Testing and Checking Considerations

Area/Function/Maneuver	Requested	Remarks
Private Pilot - Training / Checks: (142)	☐	_____
Commercial Pilot - Training /Checks:(142)	☐	_____
Multi-Engine Rating - Training / Checks (142)	☐	_____
Instrument Rating -Training / Checks (142)	☐	_____
Type Rating - Training / Checks (135/121/142)	☐	_____
Proficiency Checks (135/121/142)	☐	_____
CAT I: (RVR 2400/1800 ft. DH200 ft)	☐	_____
CAT II: (RVR 1200 ft. DH 100 ft)	☐	_____
CAT III * (lowest minimum) _____ RVR _____ ft. ** State CAT III (≤ 700 ft.), CAT IIIb (≤ 150 ft.), or CAT IIIc (0 ft.)*	☐	_____

Attachment 4 to Appendix D to Part 60—
Figure D4E – Sample Statement of Qualification – Configuration List
INFORMATION

Circling Approach	☐	____
Windshear Training:	☐	____
Windshear Training IAW 121.409(d) (121 Turbojets Only)	☐	____
Generic Unusual Attitudes and Recoveries within the Normal Flight Envelope	☐	____
Specific Unusual Attitudes Recoveries	☐	____
Auto-coupled Approach/Auto Go Around	☐	____
Auto-land / Roll Out Guidance	☐	____
TCAS/ACAS I / II	☐	____
WX-Radar	☐	____
HUD	☐	____
HGS	☐	
EFVS	☐	
Future Air Navigation Systems	☐	____
GPWS / EGPWS	☐	____
ETOPS Capability	☐	____
GPS	☐	____
SMGCS	☐	____
Helicopter Slope Landings	☐	____
Helicopter External Load Operations	☐	____
Helicopter Pinnacle Approach to Landings	☐	____
Helicopter Night Vision Maneuvers	☐	____
Helicopter Category A Takeoffs	☐	____

Attachment 4 to Appendix D to Part 60—
Figure D4F – Sample Statement of Qualification – List of Qualified Tasks
INFORMATION

STATEMENT of QUALIFICATION
LIST of QUALIFIED TASKS

Go-Fast Training Center Vertiflite AB-320 -- Level C -- FAA ID# 888

The FTD is qualified to perform all of the Maneuvers, Procedures, Tasks, and Functions Listed in Appendix D, Attachment 1, Table D1B, Minimum FTD Requirements In Effect on [mm/dd/yyyy] except for the following listed Tasks or Functions.

(*Example*) **Excepted Tasks:** **6.f.** Fire Detection and Extinguisher System. **7.d** Ditching.
Excepted Simulator Systems: Remote IOS
Additional Qualified Tasks or Functions in addition to those listed in Appendix D, Attachment 3, Table D1B, Minimum FTD Requirements. (None)

Recurrent Evaluation Requirements ***Completed at conclusion of Initial Evaluation***	
Recurrent Evaluations to be conducted each _(fill in)__ months Allotting _____ hours of FTD time. Signed: _____ NSPM / Evaluation Team Leader	Recurrent evaluations are due as follows: _(month)__ and __(month)_ and __(month)_ (enter or strike out, as appropriate) _____ Date

Revision: Based on (enter reasoning):	
Recurrent Evaluations are to be conducted each _(fill in)__ months. Allotting _____ hours. Signed: _____ NSPM Evaluation Team Leader	Recurrent evaluations are due as follows: _(month)__ and __(month)_ and __(month)_ (enter or strike out, as appropriate) _____ Date

(Repeat as Necessary)

Index of Effective FSD Directives
Filed in this Section

Notification Number	Received From: (TPAA/NSPM)	Date of Notification	Date of Modification Completion

Continue as Necessary....

BILLING CODE 4910–13–C

Attachment 5 to Appendix D to Part 60—FSTD Directives Applicable to Helicopter Flight Training Devices

Appendix E to Part 60—Qualification Performance Standards for Quality Management Systems for Flight Simulation Training Devices

Begin QPS Requirements

a. Not later than May 30, 2010, each current sponsor of an FSTD must submit to the NSPM a proposed Quality Management System (QMS) program as described in this appendix. The NSPM will notify the sponsor of the acceptability of the program, including any required adjustments. Within 6 months of the notification of acceptability, the sponsor must implement the program, conduct internal audits, make required program adjustments as a result of any internal audit, and schedule the NSPM initial audit.

b. First-time FSTD sponsors must submit to the NSPM the proposed QMS program no later than 120 days before the initial FSTD evaluation. The NSPM will notify the sponsor of the acceptability of the program, including any required adjustments. Within 6 months of the notification of acceptability, the sponsor must implement the program, conduct internal audits, make required program adjustments as a result of any internal audit, and schedule the NSPM initial audit.

c. The Director of Operations for a Part 119 certificate holder, the Chief Instructor for a Part 141 certificate holder, or the equivalent for a Part 142 or Flight Engineer School sponsor must designate a Management Representative (MR) who has the authority to establish and modify the sponsor's policies, practices, and procedures regarding the QMS program for the recurring qualification and the daily use of each FSTD.

d. The minimum content required for an acceptable QMS is found in Table E1. The policies, processes, or procedures described in this table must be maintained in a Quality Manual and will serve as the basis for the following:

(1) The sponsor-conducted initial and recurring periodic assessments;

(2) The NSPM-conducted initial and recurring periodic assessments; and

(3) The continuing surveillance and analysis by the NSPM of the sponsor's performance and effectiveness in providing a satisfactory FSTD for use on a regular basis.

e. The sponsor must conduct assessments of its QMS program in segments. The segments will be established by the NSPM at the initial assessment, and the interval for the segment assessments will be every 6 months. The intervals for the segment assessments may be extended beyond 6 months as the QMS program matures, but will not be extended beyond 12 months. The entire QMS program must be assessed every 24 months.

f. The periodic assessments conducted by the NSPM will be conducted at intervals not less than once every 24 months, and include a comprehensive review of the QMS program. These reviews will be conducted more frequently if warranted.

End QPS Requirements

Begin Information

g. An example of a segment assessment—At the initial QMS assessment, the NSPM will divide the QMS program into segments (e.g., 6 separate segments). There must be an assessment of a certain number of segments every 6 months (i.e., segments 1 and 2 at the end of the first 6 month period; segments 3 and 4 at the end of the second 6 month period (or one year); and segments 5 and 6 at the end of the third 6 month period (or 18 months). As the program matures, the interval between assessments may be extended to 12 months (e.g., segments 1, 2, and 3 at the end of the first year; and segments 4, 5, and 6 at the end of the second year). In both cases, the entire QMS program is assessed at least every 24 months.

h. The National Simulator Program Manager has available, on the NSP Web site, (*http://www.faa.gov/safety/programs_initiatives/aircraft_aviation/nsp/sqms/*) the following materials to assist sponsors in preparing for an NSPM evaluation of a mandatory or voluntary QMS program. The sample documents include:

(1) The NSPM desk assessment tool for initial evaluation of the required elements of a QMS program.

(2) The NSPM on-site assessment tool for initial and continuing evaluation of the required elements of a QMS program.

(3) The NSPM desk assessment tool for initial evaluation of the voluntary elements of a QMS program.

(4) The NSPM on-site assessment tool for initial and continuing evaluation of the voluntary elements of a QMS program.

(5) An Element Assessment Table that describes the circumstances that exist to

warrant a finding of ''non-compliance,'' or ''non-conformity;'' ''partial compliance,'' or ''partial conformity;'' and ''acceptable compliance,'' or ''acceptable conformity.''

(6) A sample Continuation Sheet for additional comments that may be added by the sponsor or the NSPM during a QMS evaluation.

(7) A sample Sponsor Checklist to assist the sponsor in verifying the elements that comprise the required QMS program.

(8) A sample Sponsor Checklist to assist the sponsor in verifying the elements that comprise the voluntary portion of QMS program.

(9) A table showing the essential functions, processes, and procedures that relate to the required and voluntary QMS components and a cross-reference to each represented task.

i. Additional Information.

(1) In addition to specifically designated QMS evaluations, the NSPM will evaluate the sponsor's QMS program as part of regularly scheduled FSTD continuing qualification evaluations and no-notice FSTD evaluations, focusing in part on the effectiveness and viability of the QMS program and its contribution to the overall capability of the FSTD to meet the requirements of this part.

(2) The sponsor or MR may delegate duties associated with maintaining the qualification of the FSTD (e.g., corrective and preventive maintenance, scheduling and conducting tests or inspections, functional preflight checks) but retain the responsibility and authority for the day-to-day qualification of the FSTD. One person may serve as the sponsor or MR for more than one FSTD, but one FSTD may not have more than one sponsor or MR.

(3) A QMS program may be applicable to more than one certificate holder (e.g., part 119 and part 142 or two part 119 certificate holders) and an MR may work for more than one certificate holder (e.g., part 119 and part 142 or two part 119 certificate holders) as long as the QMS program requirements and the MR requirements are met for each certificate holder.

(4) Standard Measurements for Flight Simulator Quality: A quality system based on FSTD performance will improve and maintain training quality. See *http://www.faa.gov/safety/programs_initiatives/aircraft_aviation/nsp/sqms/* for more information on measuring FSTD performance.

(5) The NSPM will use the results of the assessment(s) of the voluntary portions of the QMS program (as described in Tables E4 and E5) to determine whether to extend the intervals between NSPM-conducted evaluations.

j. The FAA does not mandate a specific QMS program format, but an acceptable QMS program should contain the following:.

(1) A Quality Policy. This is a formal written Quality Policy Statement that is a commitment by the sponsor outlining what the Quality System will achieve.

(2) A MR who has overall authority for monitoring the on-going qualification of assigned FSTDs to ensure that all FSTD qualification issues are resolved as required by this part. The MR should ensure that the QMS program is properly implemented and maintained, and should:

(a) Brief the sponsor's management on the qualification processes;

(b) Serve as the primary contact point for all matters between the sponsor and the NSPM regarding the qualification of the assigned FSTDs; and

(c) Oversee the day-to-day quality control.

(3) The system and processes outlined in the QMS should enable the sponsor to monitor compliance with all applicable regulations and ensure correct maintenance and performance of the FSTD.

(4) A QMS program and a statement acknowledging completion of a periodic review by the MR should include the following:

(a) A maintenance facility that provides suitable FSTD hardware and software tests and maintenance capability.

(b) A recording system in the form of a technical log in which defects, deferred defects, and development projects are listed, assigned and reviewed within a specified time period.

(c) Routine maintenance of the FSTD and performance of the QTG tests with adequate staffing to cover FSTD operating periods.

(d) A planned internal assessment schedule and a periodic review should be used to verify that corrective action was complete and effective. The assessor should have adequate knowledge of FSTDs and should be acceptable to the NSPM.

(5) The MR should receive appropriate Quality System training and brief other personnel on the procedures.

End Information

TABLE E1.—FSTD QUALITY MANAGEMENT SYSTEM

Number	<<<QPS requirement>>>	Information (reference)
E1.1.	A QMS manual that prescribes the policies, processes, or procedures outlined in this table	§ 60.5(a).
E1.2.	A policy, process, or procedure specifying how the sponsor will identify deficiencies in the QMS.	§ 60.5(b).
E1.3.	A policy, process, or procedure specifying how the sponsor will document how the QMS program will be changed to address deficiencies.	§ 60.5(b).
E1.4.	A policy, process, or procedure specifying how the sponsor will address proposed program changes (for programs that do not meet the minimum requirements as notified by the NSPM) to the NSPM and receive approval prior to their implementation.	§ 60.5(c).
E1.5.	A policy, process, or procedure specifying how the sponsor will document that at least one FSTD is used within the sponsor's FAA-approved flight training program for the aircraft or set of aircraft at least once within the 12-month period following the initial or upgrade evaluation conducted by the NSPM and at least once within each subsequent 12-month period thereafter.	§ 60. 7(b)(5).
E1.6.	A policy, process, or procedure specifying how the sponsor will document that at least one FSTD is used within the sponsor's FAA-approved flight training program for the aircraft or set of aircraft at least once within the 12-month period following the first continuing qualification evaluation conducted by the NSP and at least once within each subsequent 12-month period thereafter.	§ 60.7(b)(6).

TABLE E1.—FSTD QUALITY MANAGEMENT SYSTEM—Continued

Number	<<<QPS requirement>>>	Information (reference)
E1.7.	A policy, process, or procedure specifying how the sponsor will obtain an annual written statement from a qualified pilot (who has flown the subject aircraft or set of aircraft during the preceding 12-month period) that the performance and handling qualities of the subject FSTD represents the subject aircraft or set of aircraft (within the normal operating envelope). Required only if the subject FSTD is not used in the sponsor's FAA-approved flight training program for the aircraft or set of aircraft at least once within the preceding 12-month period.	§ 60.5(b)(7) and § 60.7(d)(2).
E1.8.	A policy, process, or procedure specifying how independent feedback (from persons recently completing training, evaluation, or obtaining flight experience; instructors and check airmen using the FSTD for training, evaluation or flight experience sessions; and FSTD technicians and maintenance personnel) will be received and addressed by the sponsor regarding the FSTD and its operation.	§ 60.9(b)(1).
E1.9.	A policy, process, or procedure specifying how and where the FSTD Statement of Qualification will be posted, or accessed by an appropriate terminal or display, in or adjacent to the FSTD.	§ 60.9(b)(2).
E1.10.	A policy, process, or procedure specifying how the sponsor's management representative (MR) is selected and identified by name to the NSPM.	§ 60.9(c) and Appendix E, paragraph(d).
E1.11.	A policy, process, or procedure specifying the MR authority and responsibility for the following:	§ 60.9(c)(2), (3), and (4).
E1.11.a.	Monitoring the on-going qualification of assigned FSTDs to ensure all matters regarding FSTD qualification are completed as required by this part.	
E1.11.b.	Ensuring that the QMS is properly maintained by overseeing the QMS policies, practices, or procedures and modifying as necessary.	
E1.11.c.	Regularly briefing sponsor's management on the status of the on-going FSTD qualification program and the effectiveness and efficiency of the QMS.	
E1.11.d.	Serving as the primary contact point for all matters between the sponsor and the NSPM regarding the qualification of assigned FSTDs.	
E1.11.e.	Delegating the MR assigned duties to an individual at each of the sponsor's locations, as appropriate.	
E1.12.	A policy, process, or procedure specifying how the sponsor will:	§ 60.13; QPS Appendices A, B, C, and D.
E1.12.a.	Ensure that the data made available to the NSPM (the validation data package) includes the aircraft manufacturer's flight test data (or other data approved by the NSPM) and all relevant data developed after the type certificate was issued (e.g., data developed in response to an airworthiness directive) if the data results from a change in performance, handling qualities, functions, or other characteristics of the aircraft that must be considered for flight crewmember training, evaluation, or experience requirements.	
E1.12.b.	Notify the NSPM within 10 working days of becoming aware that an addition to or a revision of the flight related data or airplane systems related data is available if this data is used to program or operate a qualified FSTD.	
E1.12.c.	Maintain a liaison with the manufacturer of the aircraft being simulated (or with the holder of the aircraft type certificate for the aircraft being simulated if the manufacturer is no longer in business), and if appropriate, with the person who supplied the aircraft data package for the FFS for the purposes of receiving notification of data package changes.	
E1.13.	A policy, process, or procedure specifying how the sponsor will make available all special equipment and qualified personnel needed to conduct tests during initial, continuing qualification, or special evaluations.	§ 60.14.
E1.14.	A policy, process, or procedure specifying how the sponsor will submit to the NSPM a request to evaluate the FSTD for initial qualification at a specific level and simultaneously request the TPAA forward a concurring letter to the NSPM; including how the MR will use qualified personnel to confirm the following:	§ 60.15(a)–(d); § 60.15(b); § 60.15(b)(i); § 60.15(b)(ii); § 60.15(b)(iii).
E1.14.a.	That the performance and handling qualities of the FSTD represent those of the aircraft or set of aircraft within the normal operating envelope.	
E1.14.b.	The FSTD systems and sub-systems (including the simulated aircraft systems) functionally represent those in the aircraft or set of aircraft.	

TABLE E1.—FSTD QUALITY MANAGEMENT SYSTEM—Continued

Number	<<<QPS requirement>>>	Information (reference)
E1.14.c.	The flight deck represents the configuration of the specific type or aircraft make, model, and series aircraft being simulated, as appropriate.	
E1.15.	A policy, process, or procedure specifying how the subjective and objective tests are completed at the sponsor's training facility for an initial evaluation.	§ 60.15(e).
E1.16.	A policy, process, or procedure specifying how the sponsor will update the QTG with the results of the FAA-witnessed tests and demonstrations together with the results of the objective tests and demonstrations after the NSPM completes the evaluation for initial qualification.	§ 60.15(h).
E1.17.	A policy, process, or procedure specifying how the sponsor will make the MQTG available to the NSPM upon request.	§ 60.15(i).
E1.18.	A policy, process, or procedure specifying how the sponsor will apply to the NSPM for additional qualification(s) to the Statement of Qualification.	§ 60.16(a); § 60.16(a)(1)(i); and § 60.16(a)(1)(ii).
E1.19.	A policy, process, or procedure specifying how the sponsor completes all required Attachment 2 objective tests each year in a minimum of four evenly spaced inspections as specified in the appropriate QPS.	§ 60.19(a)(1) QPS Appendices A, B, C, or D.
E1.20.	A policy, process, or procedure specifying how the sponsor completes and records a functional preflight check of the FSTD within the preceding 24 hours of FSTD use, including a description of the functional preflight.	§ 60.19(a)(2) QPS Appendices A, B, C, or D.
E1.21.	A policy, process, or procedure specifying how the sponsor schedules continuing qualification evaluations with the NSPM.	§ 60.19(b)(2).
E1.22.	A policy, process, or procedure specifying how the sponsor ensures that the FSTD has received a continuing qualification evaluation at the interval described in the MQTG.	§ 60.19(b)(5)–(6).
E1.23.	A policy, process, or procedure describing how discrepancies are recorded in the FSTD discrepancy log, including:	§ 60.19(c); § 60.19(c)(2)(i); § 60.19(c)(2)(ii).
E1.23.a.	A description of how the discrepancies are entered and maintained in the log until corrected.	
E1.23.b.	A description of the corrective action taken for each discrepancy, the identity of the individual taking the action, and the date that action is taken.	
E1.24.	A policy, process, or procedure specifying how the discrepancy log is kept in a form and manner acceptable to the Administrator and kept in or adjacent to the FSTD. (An electronic log that may be accessed by an appropriate terminal or display in or adjacent to the FSTD is satisfactory.)	§ 60.19(c)(2)(iii).
E1.25.	A policy, process, or procedure that requires each instructor, check airman, or representative of the Administrator conducting training, evaluation, or flight experience, and each person conducting the preflight inspection, who discovers a discrepancy, including any missing, malfunctioning, or inoperative components in the FSTD, to write or cause to be written a description of that discrepancy into the discrepancy log at the end of the FSTD preflight or FSTD use session.	§ 60.20.
E1.26.	A policy, process, or procedure specifying how the sponsor will apply for initial qualification based on the final aircraft data package approved by the aircraft manufacturer if operating an FSTD based on an interim qualification.	§ 60.21(c).
E1.27.	A policy, process, or procedure specifying how the sponsor determines whether an FSTD change qualifies as a modification as defined in § 60.23.	§ 60.23(a)(1)–(2).
E1.28.	A policy, process, or procedure specifying how the sponsor will ensure the FSTD is modified in accordance with any FSTD Directive regardless of the original qualification basis.	§ 60.23(b).
E1.29.	A policy, process, or procedure specifying how the sponsor will notify the NSPM and TPAA of their intent to use a modified FSTD and to ensure that the modified FSTD will not be used prior to:	§ 60.23(c)(1)(i),(ii), and (iv).
E1.29.a.	Twenty-one days since the sponsor notified the NSPM and the TPAA of the proposed modification and the sponsor has not received any response from either the NSPM or the TPAA; or	

TABLE E1.—FSTD QUALITY MANAGEMENT SYSTEM—Continued

Number	<<<QPS requirement>>>	Information (reference)
E1.29.b.	Twenty-one days since the sponsor notified the NSPM and the TPAA of the proposed modification and one has approved the proposed modification and the other has not responded; or	
E1.29.c.	The FSTD successfully completing any evaluation the NSPM may require in accordance with the standards for an evaluation for initial qualification or any part thereof before the modified FSTD is placed in service.	
E1.30.	A policy, process, or procedure specifying how, after an FSTD modification is approved by the NSPM, the sponsor will:	§ 60.23(d)–(e).
E1.30.a.	Post an addendum to the Statement of Qualification until as the NSPM issues a permanent, updated Statement of Qualification.	
E1.30.b.	Update the MQTG with current objective test results and appropriate objective data for each affected objective test or other MQTG section affected by the modification.	
E1.30.c.	File in the MQTG the requirement from the NSPM to make the modification and the record of the modification completion.	
E1.31.	A policy, process, or procedure specifying how the sponsor will track the length of time a component has been missing, malfunctioning, or inoperative (MMI), including:	§ 60.25(b)–(c), and QPS Appendices A, B, C, or D.
E1.31.a.	How the sponsor will post a list of MMI components in or adjacent to the FSTD.	
E1.31.b.	How the sponsor will notify the NSPM if the MMI has not been repaired or replaced within 30 days.*	
E1.32.	A policy, process, or procedure specifying how the sponsor will notify the NSPM and how the sponsor will seek requalification of the FSTD if the FSTD is moved and reinstalled in a different location.	§ 60.27(a)(3).
E1.33.	A policy, process, or procedure specifying how the sponsor will maintain control of the following: (The sponsor must specify how these records are maintained in plain language form or in coded form; but if the coded form is used, the sponsor must specify how the preservation and retrieval of information will be conducted.)	§ 60.31.
E1.33.a.	The MQTG and each amendment.	
E1.33.b.	A record of all FSTD modifications required by this part since the issuance of the original Statement of Qualification.	
E1.33.c.	Results of the qualification evaluations (initial and each upgrade) since the issuance of the original Statement of Qualification.	
E1.33.d.	Results of the objective tests conducted in accordance with this part for a period of 2 years.	
E1.33.e.	Results of the previous three continuing qualification evaluations, or the continuing qualification evaluations from the previous 2 years, whichever covers a longer period.	
E1.33.f.	Comments obtained in accordance with § 60.9(b).	
E1.33.g.	A record of all discrepancies entered in the discrepancy log over the previous 2 years, including the following:	
E1.33.g.1.	A list of the components or equipment that were or are missing, malfunctioning, or inoperative.	
E1.33.g.2.	The action taken to correct the discrepancy.	
E1.33.g.3.	The date the corrective action was taken.	
E1.33.g.4.	The identity of the person determining that the discrepancy has been corrected.	

*Note: If the sponsor has an approved discrepancy prioritization system, this item is satisfied by describing how discrepancies are prioritized, what actions are taken, and how the sponsor will notify the NSPM if the MMI has not been repaired or replaced within the specified timeframe.

SIMULATION QUALITY MANAGEMENT SYSTEM (SQMS) RESPONSIBILITIES MATRIX—QPS REQUIREMENTS

[Simulation Quality Management System (SQMS) Responsibilities Matrix]

<<< QPS requirements >>>			
Number		Function/element	Designated responsibility for approval or control position, name or title
Sponsor Site/Location:			
1.	R	Responsible Management/Ultimate SQMS Authority.	
2.	R	Management Representative (Primary Contact Point with NSPM): Overseeing (Monitoring, Measurement, Analysis) and Modifying SQMS Policies, Processes, Practices and Procedures; Monitoring and Ensuring FSTD Qualification; Evaluation Scheduling.	
3.	V	Quality Policy.	
4.	V	Quality Objectives.	
5.	R	SQMS Manual/Chart-Maps for Functions—Elements—Processes.	
6.	R	Responsibilities Matrix.	
7.	V	SQMS Awareness and Training.	
8.	V	Management Review/Management Provision of Resources.	
9.a.	R	SQMS Internal Assessment.	
9.b.	V	Reporting of Assessment Results.	
10.a.	R	SQMS Deficiency Identification, Program Change or Modification.	
10.b.	V	SQMS Corrective Action or Managed Change.	
11.a.	R	FSTD Routine Maintenance, Preventative Maintenance, and Pre-flight.	
11.b.	V	Periodic Expanded Pre-flight/Fly-out.	
12.a.	R	Objective Testing.	
12.b.	V	QTG Test Completion Schedules.	
13.	R	FSTD User Comments.	
14.	V	Tech-Management Liaison with Primary FSTD User(s).	
15.	V	Scheduling/Tracking—Inspection, Testing, Engineering, Maintenance.	
16.	V	FSTD Reliability Tracking, Measurement and Analysis.	
17.	V	Trend Analysis of ''Current/Closed'' FSTD Discrepancy Records/Action Plan.	
18.	V	Navigation Aid Data Base and Visual Model Currency.	
19.	V	FSTD ''Training, Evaluation, and Flight Experience'' Restrictions.	
20.	V	FSTD Removal from Service/Active Status, Out-of-Service Maintenance, Return to Service (Other than Loss of Qualification).	
21.	R	FSTD Discrepancy Corrective Action and MMI Resolution.	
22.a.	R	Liaison with Aircraft Manufacturer.	
22.b.	V	Liaison with FSTD Manufacturer.	
23.	V	Flight deck Configuration Control.	
24.	V	Engineering Order Control.	
25.	V	Aircraft Avionics and Simulated Avionics Revision Control.	
26.	R	FSTD Modification.	
27.	R	Documented FSTD Usage or Annual ''FSTD Performance-Handling Quality'' Statement.	

SIMULATION QUALITY MANAGEMENT SYSTEM (SQMS) RESPONSIBILITIES MATRIX—QPS REQUIREMENTS—Continued

[Simulation Quality Management System (SQMS) Responsibilities Matrix]

<<< QPS requirements >>>			
Number		Function/element	Designated responsibility for approval or control position, name or title
28.	V	Assignment Of Personnel (FSTD).	
29.	V	Work Environment, Criteria, Standards and Equipment Control.	
30.	V	Measuring and Monitoring Device Control.	
31.	V	Document/Record Control.	
32.	R	Organizational Chart.	

Note:
"R" indicates the element is Required as part of a Basic SQMS Program.
"V" indicates the element is voluntary and is part of the Advanced (Voluntary) SQMS Program.

Appendix F to Part 60—Definitions and Abbreviations for Flight Simulation Training Devices

Begin Information

1. Some of the definitions presented below are repeated from the definitions found in 14 CFR part 1, as indicated parenthetically.

End Information

Begin QPS Requirements

2. Definitions

1st Segment—the portion of the takeoff profile from liftoff to gear retraction.

2nd Segment—the portion of the takeoff profile from after gear retraction to initial flap/slat retraction.

3rd Segment—the portion of the takeoff profile after flap/slat retraction is complete.

Aircraft Data Package—a combination of the various types of data used to design, program, manufacture, modify, and test the FSTD.

Airspeed—calibrated airspeed unless otherwise specified and expressed in terms of nautical miles per hour (knots).

Altitude—pressure altitude (meters or feet) unless specified otherwise.

Angle of Attack—the angle between the airplane longitudinal axis and the relative wind vector projected onto the airplane plane of symmetry.

Automatic Testing—FSTD testing where all stimuli are under computer control.

Bank—the airplane attitude with respect to or around the longitudinal axis, or roll angle (degrees).

Breakout—the force required at the pilot's primary controls to achieve initial movement of the control position.

Certificate Holder—a person issued a certificate under parts 119, 141, or 142 of this chapter or a person holding an approved course of training for flight engineers in accordance with part 63 of this chapter.

Closed Loop Testing—a test method where the input stimuli are generated by controllers that drive the FSTD to follow a pre-defined target response.

Computer Controlled Airplane—an airplane where all pilot inputs to the control surfaces are transferred and augmented by computers.

Confined Area (helicopter operations)—an area where the flight of the helicopter is limited in some direction by terrain or the presence of natural or man-made obstructions (e.g., a clearing in the woods, a city street, or a road bordered by trees or power lines are regarded as confined areas).

Control Sweep—movement of the appropriate pilot controller from neutral to an extreme limit in one direction (Forward, Aft, Right, or Left), a continuous movement back through neutral to the opposite extreme position, and then a return to the neutral position.

Convertible FSTD—an FSTD in which hardware and software can be changed so that the FSTD becomes a replica of a different model, usually of the same type aircraft. The same FSTD platform, cockpit shell, motion system, visual system, computers, and peripheral equipment can be used in more than one simulation.

Critical Engine Parameter—the parameter that is the most accurate measure of propulsive force.

Deadband—the amount of movement of the input for a system for which there is no reaction in the output or state of the system observed.

Distance—the length of space between two points, expressed in terms of nautical miles unless otherwise specified.

Discrepancy—as used in this part, an aspect of the FSTD that is not correct with respect to the aircraft being simulated. This includes missing, malfunctioning, or inoperative components that are required to be present and operate correctly for training, evaluation, and experience functions to be creditable. It also includes errors in the documentation used to support the FSTD (e.g., MQTG errors, information missing from the MQTG, or required statements from appropriately qualified personnel).

Downgrade—a permanent change in the qualification level of an FSTD to a lower level.

Driven—a test method where the input stimulus or variable is positioned by automatic means, usually a computer input.

Electronic Copy of the MQTG—an electronic copy of the MQTG provided by an electronic scan presented in a format, acceptable to the NSPM.

Electronic Master Qualification Test Guide—an electronic version of the MQTG (eMQTG), where all objective data obtained from airplane testing, or another approved source, together with correlating objective test results obtained from the performance of the FSTD and a description of the equipment necessary to perform the evaluation for the initial and the continuing qualification evaluations is stored, archived, or presented in either reformatted or digitized electronic format.

Engine—as used in this part, the appliance or structure that supplies propulsive force for movement of the aircraft: i.e., the turbine engine for turbine powered aircraft; the turbine engine and propeller assembly for turbo-propeller powered aircraft; and the reciprocating engine and propeller assembly for reciprocating engine powered aircraft. For purposes of this part, engine failure is the failure of either the engine or propeller assembly to provide thrust higher than idle power thrust due to a failure of either the engine or the propeller assembly.

Evaluation—with respect to an individual, the checking, testing, or review associated with flight crewmember qualification, training, and certification under parts 61, 63, 121, or 135 of this chapter. With respect to an FSTD, the qualification activities for the device (*e.g.*, the objective and subjective tests, the inspections, or the continuing qualification evaluations) associated with the requirements of this part.

Fictional Airport—a visual model of an airport that is a collection of "non-real world" terrain, instrument approach procedures, navigation aids, maps, and visual modeling detail sufficient to enable completion of an Airline Transport Pilot Certificate or Type Rating.

Flight Experience—recency of flight experience for landing credit purposes.

Flight Simulation Training Device (FSTD)—a full flight simulator (FFS) or a flight training device (FTD). (Part 1)

Flight Test Data—(a subset of objective data) aircraft data collected by the aircraft manufacturer or other acceptable data supplier during an aircraft flight test program.

Flight Training Device (FTD)—a replica of aircraft instruments, equipment, panels, and controls in an open flight deck area or an enclosed aircraft cockpit replica. It includes the equipment and computer programs necessary to represent aircraft (or set of aircraft) operations in ground and flight conditions having the full range of capabilities of the systems installed in the device as described in part 60 of this chapter and the qualification performance standard (QPS) for a specific FTD qualification level. (Part 1)

Free Response—the response of the FSTD after completion of a control input or disturbance.

Frozen—a test condition where one or more variables are held constant with time.

FSTD Approval—the extent to which an FSTD may be used by a certificate holder as authorized by the FAA.

FSTD Directive—a document issued by the FAA to an FSTD sponsor requiring a modification to the FSTD due to a recognized safety-of-flight issue and amending the qualification basis for the FSTD.

FSTD Latency—the additional time for the FSTD to respond to input that is beyond the response time of the aircraft.

FSTD Performance—the overall performance of the FSTD, including aircraft performance (e.g., thrust/drag relationships, climb, range) and flight and ground handling.

Full Flight Simulator (FFS)—a replica of a specific type, make, model, or series aircraft. It includes the equipment and computer programs necessary to represent aircraft operations in ground and flight conditions, a visual system providing an out-of-the-flight deck view, a system that provides cues at least equivalent to those of a three-degree-of-freedom motion system, and has the full range of capabilities of the systems installed in the device as described in part 60 of this chapter and the QPS for a specific FFS qualification level. (Part 1)

Generic Airport—a Class III visual model that combines correct navigation aids for a real world airport with a visual model that does not depict that same airport.

Grandfathering—as used in this part, the practice of assigning a qualification basis for an FSTD based on the period of time during which a published set of standards governed the requirements for the initial and continuing qualification of FSTDs. Each FSTD manufactured during this specified period of time is ''grandfathered'' or held to the standards that were in effect during that time period. The grandfathered standards remain applicable to each FSTD manufactured during the stated time period regardless of any subsequent modification to those standards and regardless of the sponsor, as long as the FSTD remains qualified or is maintained in a non-qualified status in accordance with the specific requirements and time periods prescribed in this part.

Gross Weight—For objective test purposes:

Basic Operating Weight (BOW)—the empty weight of the aircraft plus the weight of the following: normal oil quantity; lavatory servicing fluid; potable water; required crewmembers and their baggage; and emergency equipment.

Near Maximum Gross Weight—a weight chosen by the sponsor or data provider that is not less than the basic operating weight (BOW) of the airplane being simulated plus 80% of the difference between the maximum certificated gross weight (either takeoff weight or landing weight, as appropriate for the test) and the BOW.

Light Gross Weight—a weight chosen by the sponsor or data provider that is not more than 120% of the BOW of the airplane being simulated or the minimum practical operating weight of the test airplane.

Medium Gross Weight—a weight chosen by the sponsor or data provider that is within 10 percent of the average of the numerical values of the BOW and the maximum certificated gross weight.

Ground Effect—the change in aerodynamic characteristics due to of the change in the airflow past the aircraft caused by the proximity of the earth's surface to the airplane.

Hands Off—a test maneuver conducted without pilot control inputs.

Hands On—a test maneuver conducted with pilot control inputs as required.

Heave—FSTD movement with respect to or along the vertical axis.

Height—the height above ground level (or AGL) expressed in meters or feet.

''In Use'' Runway—as used in this part, the runway that is currently selected, able to be used for takeoffs and landings, and has the surface lighting and markings required by this part. Also known as the ''active'' runway.

Integrated Testing—testing of the FSTD so that all aircraft system models are active and contribute appropriately to the results. With integrated testing, none of the models used are substituted with models or other algorithms intended for testing only.

Irreversible Control System—a control system where movement of the control surface will not backdrive the pilot's control on the flight deck.

Locked—a test condition where one or more variables are held constant with time.

Manual Testing—FSTD testing conducted without computer inputs except for initial setup, and all modules of the simulation are active.

Master Qualification Test Guide (MQTG)—the FAA-approved Qualification Test Guide with the addition of the FAA-witnessed test results, applicable to each individual FSTD.

Medium—the normal operational weight for a given flight segment.

National Simulator Program Manager (NSPM)—the FAA manager responsible for the overall administration and direction of the National Simulator Program (NSP), or a person approved by that FAA manager.

Near Limiting Performance—the performance level the operating engine must be required to achieve to have sufficient power to land a helicopter after experiencing a single engine failure during takeoff of a multiengine helicopter. The operating engine must be required to operate within at least 5 percent of the maximum RPM or temperature limits of the gas turbine or power turbine, or operate within at least 5 percent of the maximum drive train torque limits. Near limiting performance is based on the existing combination of density altitude, temperature, and helicopter gross weight.

Nominal—the normal operating configuration, atmospheric conditions, and flight parameters for the specified flight segment.

Non-Normal Control—a term used in reference to Computer Controlled Airplanes. It is the state where one or more of the intended control, augmentation, or protection functions are not fully working.

Note: Specific terms such as ALTERNATE, DIRECT, SECONDARY, or BACKUP may be used to define an actual level of degradation.

Normal Control—a term used in reference to Computer Controlled Airplanes. It is the state where the intended control, augmentation, and protection functions are fully working.

Objective Data—quantitative data, acceptable to the NSPM, used to evaluate the FSTD.

Objective Test—a quantitative measurement and evaluation of FSTD performance.

Pitch—the airplane attitude with respect to, or around, the lateral axis expressed in degrees.

Power Lever Angle (PLA)—the angle of the pilot's primary engine control lever(s) on the flight deck. This may also be referred to as THROTTLE or POWER LEVER.

Predicted Data—estimations or extrapolations of existing flight test data or data from other simulation models using engineering analyses, engineering simulations, design data, or wind tunnel data.

Protection Functions—systems functions designed to protect an airplane from exceeding its flight maneuver limitations.

Pulse Input—a step input to a control followed by an immediate return to the initial position.

Qualification Level—the categorization of an FSTD established by the NSPM based on the FSTDs demonstrated technical and operational capabilities as prescribed in this part.

Qualification Performance Standard (QPS)—the collection of procedures and criteria used when conducting objective and subjective tests, to establish FSTD qualification levels. The QPS are published in the appendices to this part, as follows: Appendix A, for Airplane Simulators; Appendix B, for Airplane Flight Training Devices; Appendix C, for Helicopter Simulators; Appendix D, for Helicopter Flight Training Devices; Appendix E, for Quality Management Systems for Flight Simulation Training Devices; and Appendix F, for Definitions and Abbreviations for Flight Simulation Training Devices.

Qualification Test Guide (QTG)—the primary reference document used for evaluating an aircraft FSTD. It contains test results, statements of compliance and capability, the configuration of the aircraft

simulated, and other information for the evaluator to assess the FSTD against the applicable regulatory criteria.

Quality Management System (QMS)—a flight simulation quality-systems that can be used for external quality-assurance purposes. It is designed to identify the processes needed, determine the sequence and interaction of the processes, determine criteria and methods required to ensure the effective operation and control of the processes, ensure the availability of information necessary to support the operation and monitoring of the processes, measure, monitor and analyze the processes, and implement the actions necessary to achieve planned results.

Real-World Airport—as used in this part in reference to airport visual models, a computer generated visual depiction of an existing airport.

Representative—when used as an adjective in this part, typical, demonstrative, or characteristic of, the feature being described. For example, ''representative sampling of tests'' means a sub-set of the complete set of all tests such that the sample includes one or more of the tests in each of the major categories, the results of which would provide the evaluator an overall, understanding of the performance and handling characteristics of the FSTD.

Reversible Control System—a control system in which movement of the control surface will backdrive the pilot's control in the cockpit.

Roll—the airplane attitude with respect to, or around, the longitudinal axis expressed in degrees.

Set of Aircraft—aircraft that share similar handling and operating characteristics, similar operating envelopes, and have the same number and type of engines or powerplants.

Sideslip Angle—the angle between the relative wind vector and the airplane plane of symmetry. (**Note:** this definition replaces the current definition of ''sideslip.'')

Simulation Quality Management System (SQMS)—the required and voluntary elements of a quality management system for FSTD continuing qualification.

Snapshot—a presentation of one or more variables at a given instant of time.

Special Evaluation—an evaluation of the FSTD for purposes other than initial, upgrade, or continuing qualification. Circumstances that may require a special evaluation include movement of the FSTD to a different location, or an update to FSTD software or hardware that might affect performance or flying qualities.

Sponsor—a certificate holder who seeks or maintains FSTD qualification and is responsible for the prescribed actions as prescribed in this part and the QPS for the appropriate FSTD and qualification level.

Statement of Compliance and Capability (SOC)—a declaration that a specific requirement has been met and explaining how the requirement was met (e.g., gear modeling approach, coefficient of friction sources). The SOC must also describe the capability of the FSTD to meet the requirement, including references to sources of information for showing compliance, rationale to explain how the referenced material is used, mathematical equations and parameter values used, and conclusions reached.

Step Input—an abrupt control input held at a constant value.

Subjective Test—a qualitative assessment of the performance and operation of the FSTD.

Surge—FSTD movement with respect to or along the longitudinal axis.

Sway—FSTD movement with respect to or along the lateral axis.

Time History—a presentation of the change of a variable with respect to time.

Training Program Approval Authority (TPAA)—a person authorized by the Administrator to approve the aircraft flight training program in which the FSTD will be used.

Training Restriction—a temporary condition where an FSTD with missing, malfunctioning, or inoperative (MMI) components may continue to be used at the qualification level indicated on its SOQ, but restricted from completing the tasks for which the correct function of the MMI component is required.

Transport Delay or ''Throughput''—the total FSTD system processing time required for an input signal from a pilot primary flight control until motion system, visual system, or instrument response. It is the overall time delay incurred from signal input to output response. It does not include the characteristic delay of the airplane simulated.

Upgrade—the improvement or enhancement of an FSTD for the purpose of achieving a higher qualification level.

Validation Data—objective data used to determine if the FSTD performance is within the tolerances prescribed in the QPS.

Validation Test—an objective test where FSTD parameters are compared to the relevant validation data to ensure that the FSTD performance is within the tolerances prescribed in the QPS.

Visual Data Base—a display that may include one or more visual models.

Visual Model—a collection of one or more visual scenes of an airport or portion(s) of an airport.

Visual System Response Time—the interval from a control input to the completion of the visual display scan of the first video field containing the resulting different information.

Yaw—the airplane attitude with respect to, or around, the vertical axis expressed in degrees.

3. Abbreviations

AFM Airplane Flight Manual.
AGL Above Ground Level (meters or feet).
AOA Angle of Attack (degrees).
APD Aircrew Program Designee.
CCA Computer Controlled Airplane.
cd/m2 candela/meter^2, 3.4263 candela/m^2 = 1 ft-Lambert.
CFR Code of Federal Regulations.
cm(s) centimeter, centimeters.
daN decaNewtons, one (1) decaNewton = 2.27 pounds.
deg(s) degree, degrees.
DOF Degrees-of-freedom.
eMQTG Electronic Master Qualification Test Guide.
EPR Engine Pressure Ratio.
FAA Federal Aviation Administration (U.S.).
fpm feet per minute.
ft foot/feet, 1 foot = 0.304801 meters.
ft-Lambert foot-Lambert, 1 ft-Lambert = 3.4263 candela/m^2.
g Acceleration due to Gravity (meters or feet/sec^2); 1g = 9.81 m/sec^2 or 32.2 feet/sec^2.
G/S Glideslope.
IATA International Airline Transport Association.
ICAO International Civil Aviation Organization.
IGE In ground effect.
ILS Instrument Landing System.
IQTG International Qualification Test Guide.
km Kilometers 1 km = 0.62137 Statute Miles.
kPa KiloPascal (Kilo Newton/Meters2). 1 psi = 6.89476 kPa.
kts Knots calibrated airspeed unless otherwise specified, 1 knot = 0.5148 m/sec or 1.689 ft/sec.
lb(s) pound(s), one (1) pound = 0.44 decaNewton.
LDP Landing decision point.
M,m Meters, 1 Meter = 3.28083 feet.
Min(s) Minute, minutes.
MLG Main Landing Gear.
Mpa MegaPascals (1 psi = 6894.76 pascals).
ms millisecond(s).
N NORMAL CONTROL Used in reference to Computer Controlled Airplanes.
nm Nautical Mile(s) 1 Nautical Mile = 6,080 feet.
NN NON-NORMAL CONTROL Used in reference to Computer Controlled Airplanes.
N1 Low Pressure Rotor revolutions per minute, expressed in percent of maximum.
N2 High Pressure Rotor revolutions per minute, expressed in percent of maximum.
N3 High Pressure Rotor revolutions per minute, expressed in percent of maximum.
NWA Nosewheel Angle (degrees).
NZFT Non-Zero Flight Time.
OGE Out of ground effect.
PAPI Precision Approach Path Indicator System.
Pf Impact or Feel Pressure, often expressed as ''q.''
PLA Power Lever Angle.
PLF Power for Level Flight.
psi pounds per square inch.
QPS Qualification Performance Standard.
RAE Royal Aerospace Establishment.
R/C Rate of Climb (meters/sec or feet/min).
R/D Rate of Descent (meters/sec or feet/min).
REIL Runway End Identifier Lights.
RVR Runway Visual Range (meters or feet).
s second(s).
sec(s) second, seconds.
sm Statute Mile(s) 1 Statute Mile = 5,280 feet.
SOC Statement of Compliance and Capability.
Tf Total time of the flare maneuver duration.
Ti Total time from initial throttle movement until a 10% response of a critical engine parameter.
TIR Type Inspection Report.

T/O Takeoff.
Tt Total time from Ti to a 90% increase or decrease in the power level specified.
VASI Visual Approach Slope Indicator System.
VGS Visual Ground Segment.
V_1 Decision speed.
V_2 Takeoff safety speed.
Vmc Minimum Control Speed.
Vmca Minimum Control Speed in the air.
Vmcg Minimum Control Speed on the ground.
Vmcl Minimum Control Speed—Landing.
Vmu The speed at which the last main landing gear leaves the ground.
V_R Rotate Speed.
V_S Stall Speed or minimum speed in the stall.
WAT Weight, Altitude, Temperature.
ZFT Zero Flight Time.

End QPS Requirements

Issued in Washington, DC, on September 26, 2007.

John M. Allen,

Director, Flight Standards Service.

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Part III

Department of Energy

10 CFR Part 430

Energy Conservation Program for Consumer Products: Test Procedure for Residential Central Air Conditioners and Heat Pumps; Final Rule

DEPARTMENT OF ENERGY

10 CFR Part 430

[Docket No. EE–RM/TP–02–002]

RIN 1904–AB55

Energy Conservation Program for Consumer Products: Test Procedure for Residential Central Air Conditioners and Heat Pumps

AGENCY: Department of Energy.

ACTION: Final rule.

SUMMARY: The Department of Energy (DOE) is amending its test procedure for residential central air conditioners and heat pumps. This final rule implements test procedure changes for small-duct, high-velocity systems, two-capacity units, and updates references to the current American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standards. Today's rule also clarifies issues associated with sampling tested systems and rating untested split-system combinations.

DATES: This rule is effective April 21, 2008. Incorporation by reference of certain publications in the final rule is approved by the Director of the Federal Register as of April 21, 2008.

ADDRESSES: You may review copies of all materials related to this rulemaking at the U.S. Department of Energy, Forrestal Building, Room 1J–018 (Resource Room of the Building Technologies Program), 1000 Independence Avenue, SW., Washington, DC, (202) 586–9127, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Please call Ms. Brenda Edwards-Jones at the above telephone number for additional information regarding visiting the Resource Room. *Please note:* DOE's Freedom of Information Reading Room (formerly Room 1E–190 at the Forrestal Building) is no longer housing rulemaking materials.

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SUPPLEMENTARY INFORMATION:

I. Introduction
A. Authority
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I. Introduction

A. Authority

Part B of Title III of the Energy Policy and Conservation Act (EPCA) established the Energy Conservation Program for Consumer Products Other Than Automobiles (Program). (42 U.S.C. 6291 *et seq.*) The products currently subject to this Program (covered products) include central air conditioners and heat pumps, the subject of today's final rule.

Under EPCA, the Program consists of three parts: Testing, labeling, and the Federal energy conservation standards. DOE, in consultation with the National Institute of Standards and Technology (NIST), is authorized to establish or amend test procedures as appropriate for each of the covered products. (42 U.S.C. 6293) The purpose of these test procedures is to measure energy efficiency, energy use, or estimated annual operating cost of a covered product during a representative, average use cycle or period of use. The test procedure must not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3))

If a test procedure is amended, DOE is required to determine to what extent, if any, the proposed new test procedure would alter the measured energy efficiency of any covered product as determined under the existing test procedure. (42 U.S.C. 6293(e)(1)) If DOE determines that an amended test procedure would alter the measured energy efficiency of a covered product, DOE is required to amend the applicable energy conservation standard with respect to such test procedure. In determining any such amended energy conservation standard, DOE is required to measure the energy efficiency or energy use of a representative sample of covered products that minimally comply with the existing standard. The average efficiency or energy use of this representative sample, tested using the amended test procedure, constitutes the amended standard. (42 U.S.C. 6293(e)(2)) DOE has determined that today's amended test procedure does not alter the measured efficiency or measured energy use of minimally compliant central air conditioners and heat pumps.

Beginning 180 days after a test procedure for a covered product is prescribed, no manufacturer, distributor, retailer, or private labeler may make representations with respect to the energy use, efficiency, or cost of energy consumed by such product, except as reflected in tests conducted according to the DOE procedure. (42 U.S.C. 6293(c)(2)) Any manufacturer, distributor, retailer, or private labeler may petition the Secretary of Energy for an extension of not more than 180 days to test and make representations in accordance with the amended DOE test procedure. (42 U.S.C. 6293(c)(3)) In addition, all existing waivers concerning residential multi-split

systems terminate on the effective date of today's final rule.

B. Background

A final rule published on October 11, 2005, updated and completely re-organized the DOE residential central air conditioner and heat pump test procedure. 70 FR 59122. During this prior rulemaking, a few issues were identified too late in the process to allow them due consideration. DOE investigated these issues and considered additional topics that could further improve the testing and rating process. As a result of these efforts, DOE issued a Notice of Proposed Rulemaking on July 20, 2006 (hereafter referred to as the July 2006 proposed rule). 71 FR 41320. Although the majority of the proposed changes pertained to the test procedure set forth in appendix M to subpart B of Title 10, Code of Federal Regulations, Part 430 (10 CFR part 430), DOE also proposed revisions to sections of subparts B and F of 10 CFR part 430 that concern the sampling of tested units and the ratings of untested split-system combinations. 10 CFR 430.24 and 430.62. DOE held a public meeting on the July 2006 proposed rule on August 23, 2006.

On October 10, 2006, DOE published a **Federal Register** notice correcting two inadvertent omissions in the July 2006 proposed rule. 71 FR 59410. These omissions contained the regulatory language governing the criterion for using an air volume rate that is less than the manufacturer's specified value: One case covered air conditioners and heat pumps, the other case covered heating-only heat pumps. This change was described in the preamble of the July 2006 proposed rule, but was not included in the regulatory language. In addition to publishing the corrected regulatory language in the **Federal Register**, the omitted regulatory language was distributed at the August 23, 2006, public meeting.

C. Summary of the Test Procedure Revisions

The revisions adopted in today's final rule include the following changes to appendix M of Subpart B of 10 CFR part 430: (1) Adding new testing requirements for small-duct, high-velocity systems; (2) reinstating the optional testing to determine the cyclic-degradation coefficient (C_D) of a two-capacity unit when cycling on and off at high capacity; (3) shortening the maximum duration of the Frost Accumulation Tests; (4) allowing the use of default equations to approximate the capacity and power of a two-capacity unit when operating at low-capacity/stage and at an outdoor temperature of 35 degrees Fahrenheit (°F); (5) implementing modifications and additions that specifically address elements unique to testing and rating modulating multi-split systems; (6) allowing indoor capacities used in calculating Seasonal Energy Efficiency Ratio (SEER) and Heating Seasonal Performance Factor (HSPF) to be corrected for duct losses; (7) defining the term ''standard air;'' (8) changing the outdoor temperature conditions used for one of the low-capacity, steady-state, cooling mode tests on a two-capacity unit; (9) renaming ''Cooling and Heating Certified Air Volume Rates'' to ''Full-Load Air Volume Rates;'' (10) modifying the criterion for using an air volume rate less than the manufacturer's specified value; (11) updating the references to current versions of the Air-Conditioning and Refrigeration Institute (ARI) and ASHRAE standards; (12) adding language to better explain the SEER and HSPF calculation steps for variable-speed equipment; and (13) adding text to clarify the provision to use the default value of the cyclic-degradation coefficient if it is lower than the tested value.

Today's final rule also amends sections 430.2, 430.24 and 430.62 of 10 CFR part 430, as follows: (1) It expands the options for meeting the data submission requirements when verifying an alternative rating method (ARM); (2) it clarifies the sample population to be used to validate the rated SEER and rated HSPF of a heat pump; (3) it clarifies the definition of a ''highest-sales-volume combination'' (HSVC); (4) it clarifies DOE's role in verifying ratings for untested split system combinations; (5) it clarifies how to apply the ARM to obtain published ratings for untested, split-system combinations; (6) it adds the requirement that ratings for an air conditioner or heat pump tested with a furnace or similar ducted air mover include the model number of the air mover as part of the overall equipment model number; (7) it clarifies the responsibilities of private labelers; (8) it adds the statutory definition of ''private labeler;'' and (9) it adds definitions for terms, including ''indoor unit'', ''outdoor unit'', and ''ARM/simulation adjustment factor.''

II. Discussion of Comments

In addition to the comments received at the August 23, 2006, public meeting, DOE received written comments to the July, 2006 proposed rule from ARI, Nordyne, Mitsubishi, Fujitsu General Limited (Fujitsu), Carrier Corporation (Carrier), the American Council for an Energy-Efficient Economy (ACEEE), Sanyo Fisher Service Corporation (Sanyo), Lennox International (Lennox), and the China WTO/TBT National Notification and Enquiry Center (China). The comments and the DOE response to them are discussed below. References to section numbers within this document refer to the section numbers of Appendix M to Subpart B of 10 CFR part 430–Uniform Test Method for Measuring the Energy Consumption of Central Air Conditioners and Heat Pumps (Appendix M).

A. Frost Accumulation Test Duration

DOE proposed shortening the maximum test interval of a Frost Accumulation Test from 12 hours to 6 hours when testing a two-capacity heat pump at low capacity. ARI supported DOE's proposal to lessen the test burden, but recommended that the maximum duration be further shortened to 3 hours. (ARI, No. 21 at p. 2)[1] ARI stated that ''preliminary testing done by manufacturers shows a variation in HSPF of less than one tenth [2] when the test is reduced from 12 to 3 hours.'' (ARI, *Id.*) In a follow-up communication, ARI clarified that its 3-hour recommendation applies to all Frost Accumulation Tests, not just the test at low-capacity. (ARI, No. 25 at p. 2) ARI provided a table showing the percentage of the total interval allocated to defrosting for cycles lasting 6, 7, 8, 9, and 10 minutes; percentages were calculated for complete (frost + defrost) intervals ranging from 1 hour to 12 hours. As an example, for tests lasting 12, 6, and 3 hours, the percentages of time spent defrosting are 1.1, 2.2, and 4.4 percent, respectively, if the defrost lasts 8 minutes in all cases. (ARI, No. 25 at p. 3) In addition to recommending that any change be applied to all Frost Accumulation Tests, Nordyne and Carrier recommended manufacturers be given the option of using either the procedure specified in ASHRAE Standard 37 (which uses a maximum test interval of 3 hours) or the algorithm specified in the DOE test procedure. (Nordyne, No. 19 at p. 2; Carrier, No. 17

[1] A notation in the form ''ARI, No.21 at p. 2'' identifies a written comment the Department has received and has included in the docket of this rulemaking. This particular notation refers to a comment (1) by the Air-Conditioning and Refrigeration Institute (ARI), (2) in document number 21 in the docket of this rulemaking (maintained in the Resource Room of the Building Technologies Program), and (3) appearing on page 2 of document number 21. Likewise, ''Public Hearing Tr., p. 178,'' for example, would refer to page 178 of the transcript of the ''Public Meeting on Test Procedures for Central Air Conditioners'' held in Washington, DC, August 23, 2006.

[2] This means an absolute variation in HSPF of 0.1, such as between 8.1 and 8.2.

at p. 2) In summary, the stakeholders recommended applying changes to all Frost Accumulation Tests (not just to the one low-capacity test, as proposed), reducing the maximum duration to 3 hours instead of 6 hours, and adding an alternative test method.

DOE believes that if all three changes were adopted, the HSPF ratings of heat pumps would be changed, since the ASHRAE Standard 37 ''T'' Test Procedure may terminate after 0, 1, 2, or 3 complete cycles whereas the DOE Frost Accumulation Test is either 0 or 1 complete cycle. The different cycles in the ASHRAE and DOE test methods can yield different average heating capacity and power consumption results at the DOE-specified 35 °F dry-bulb/33 °F wet-bulb outdoor test conditions which would affect the HSPF rating. As for shortening the maximum test time to 3 hours, such a change may benefit heat pumps (i.e., give a higher average heating capacity) that initiate a defrost of the outdoor coils between 3 and 6 hours after the start of the test. In such cases, the heat pump's average heating capacity will not account for the energy used for defrosting. By not accounting for the defrost energy, the shorter test time would overstate the heating capacity and HSPF. Thus, DOE will not reduce the maximum test duration by the additional 3 hours or add the ASHRAE Standard 37 procedure as an alternate test method as part of this final rule.

DOE agrees with comments recommending the same maximum limit for all Frost Accumulation Tests. The low-capacity Frost Accumulation Test is projected to be the most likely of the 35 °F tests to approach the proposed 6-hour limit, followed by the required Frost Accumulation Test at the intermediate speed when testing a variable-speed heat pump. All other Frost Accumulation Tests are more likely to build frost and are likely to result in the unit defrosting in less time than it would at the intermediate speed. Thus, triggering the 6-hour limit is less likely when applied to these other cases. Finally, DOE concludes that 6 hours offers a sufficiently long duration for evaluating performance in all cases. As noted in the July 2006 proposed rule, if a heat pump has not defrosted in 6 hours, it is either not building frost or is completely frosted and probably has been so for more than half of the interval. In both cases, the benefits from continuing to run the test past 6 hours are minimal. Therefore, DOE reduces the maximum duration of all Frost Accumulation Tests from 12 hours to 6 hours. This change appears in section 3.9 of Appendix M.

B. Multiple-Split Systems

DOE received comments on issues related to the testing and rating of multiple-split air-conditioning systems (multi-split systems), including: (1) Rating multi-split systems based on SEER (if they compete primarily with ducted central air conditioners), or rating them based on EER (if they compete with room air conditioners) (SEER or EER); (2) adopting a separate test procedure for multi-split systems, such as Draft ARI Standard 1230 (ARI 1230); (3) allowing one or more indoor coils to turn off during any test, if representative of normal operation (Coils active during test); (4) allowing the manufacturer to specify the compressor speed used during the minimum-speed, intermediate-speed and maximum-speed tests (Compressor speed); (5) extending multi-split system test procedure changes to one-to-one ducted systems (One-to-one applicability); and (6) adding the term ''tested combination'' within 10 CFR 430.2 for determining the combination of indoor units to be tested when testing a multi-split outdoor unit, and the appropriate rating of the tested combination (Tested combination).

SEER or EER. DOE received several comments on whether multi-split systems compete primarily with ducted residential central air conditioners and heat pumps and as such, should be rated based on SEER and HSPF, or if they compete with room air conditioners and should be rated in terms of EER and COP. Trane argues that residential size multi-split systems compete for the same markets as ducted residential central systems: both serve multiple rooms, one ducts air whereas the second ''ducts'' refrigerant. (Public Hearing Tr., p. 178) Carrier and ACEEE support rating conventional central air conditioners and heat pumps and multi-split systems using the same descriptors. (Carrier, No. 17 at p. 1 and ACEEE, No. 16 at p. 3) According to Mitsubishi, ''ductless split-systems, including ductless multi-split systems, are used for room or spot cooling applications while the rest of the USE [unitary small equipment] equipment (i.e., central systems) is applied in a ducted environment for multiple rooms or whole houses.'' (Mitsubishi, No. 20 at p. 3) DOE believes residential-size multi-split systems compete with ducted central systems and that the consumer will be best served if multi-split systems can be compared with central air conditioners and central air-conditioning heat pumps. Therefore, DOE concludes that SEER and HSPF are better descriptors than EER and COP.

ARI 1230. ARI, Sanyo, Fujitsu, Mitsubishi, and Daikin AC (Americas), Inc. (Daikin) urged DOE to adopt Draft ARI Standard 1230, ''Performance Rating of Multi-Split Air-Conditioning and Heat Pump Equipment'' in lieu of the proposed rule. (ARI, No. 21 at p. 3; Sanyo, No. 15 at pp. 2–3; Fujitsu, No. 13 at p. 3; Mitsubishi, No. 20 at pp. 4–5; Public Hearing Tr., pp. 153–154) China recommends that DOE not cover multi-split systems within the residential central air conditioner and heat pump test procedure until all the technical issues have been resolved. (China, No. 14 at p. 1) Copeland recommends that DOE review and consider the approaches being taken by China and the European Union on how to test and rate multi-split systems. (Public Hearing Tr., p. 64) Nordyne supports the changes proposed in the July 2006 proposed rule to cover multi-split systems as an interim solution, but states that further study is needed for a long term solution. (Nordyne, No. 19 at p. 2) Lennox, on the other hand, believes that multi-split systems should be rated using the current test procedure for central air conditioners and central air conditioning heat pumps. (Lennox, No. 22 at p. 2) Sanyo and Fujitsu point out that the test procedure does not address units that can simultaneously cool and heat; the test procedure does not specify how many indoor units are turned off during a given test; and doubts whether the current DOE tests for variable-speed systems can approximate the unit's ''performance map.'' [3] (Sanyo, No. 15 at pp. 2–3; Fujitsu, No. 13 at pp. 2–3; Public Hearing Tr., pp. 94–95, 110)

DOE is not convinced that residential-size multi-split systems require a separate test procedure from the current test procedure found in Appendix M. While it is true that the current test procedure fails to account for the energy savings derived from a simultaneous cooling and heating mode, the current test procedure is adaptable and DOE believes the tests for variable-speed systems in Appendix M offer a reasonable starting point for producing energy efficiency and energy use estimates. Once data become available that provides insight as to the energy use and efficiency benefits of simultaneous cooling and heating, and alternative or additional tests to estimate these benefits are formulated, DOE will then consider further

[3] Performance map refers to a plot that shows the effect of compressor speed, number of indoor unit turned on versus off, and outdoor temperature conditions on the unit's space conditioning capacity and power consumption.

amendments to the test procedure. Accordingly, DOE is not adopting a new test procedure and energy efficiency and energy use ratings will continue to be based on the test procedure found in Appendix M.

Regarding the stakeholder recommendation to adopt draft ARI Standard 1230, the current draft (as distributed in June 2007), is less complete for residential multi-split systems than the DOE test procedure in today's final rule. For example, ARI Standard 1230 (June 2007 draft) lacks information on how to conduct intermediate speed tests, whether any indoor units are to be turned off for part-load tests, how to interpolate EER and COP in the intermediate speed range, and generally how to calculate SEER and HSPF. Furthermore, ARI has not finalized ARI Standard 1230 and, as such it cannot be incorporated by reference since it could be amended prior to being adopted in final form. Therefore, for the reasons discussed above, DOE is not adopting ARI Standard 1230 (June 2007 draft) in today's final rule.

As for considering changes that are modeled on the approaches taken in China and the European Union, DOE sees their potential use as limited given the current EPCA requirement to calculate annual measures of energy consumption. The European Union HVAC trade association, Eurovent, lists ratings for residential-size multi-splits that are based on full load EER and COP and their European SEER (ESEER) is thus far limited to liquid chilling packages, not unitary air conditioners (i.e., residential central air conditioners and central air conditioning heat pumps). The ESEER is actually a variation of ARI Standard 340/360's IPLV, which is used to quantify the part-load performance of larger, non-residential systems. An IPLV equivalent is also used in China. Neither international resource explicitly addresses the number of indoor units to be turned off during a given part-load test; such information would be necessary in order to get an accurate measure of equipment efficiency for comparison purposes.

Coils active during test. Concerning the issue of whether one or more indoor units should be turned off during any given test, Daikin commented that you cannot rely on the unit's controls to make the decision when operated in a laboratory environment. (Public Hearing Tr., p. 62) Given this, DOE offered, at the public meeting, an algorithm for specifying the number of indoor units that are turned on for a given test. This algorithm is shown in Table 1, below. To evaluate the effect of such an algorithm, Fujitsu conducted simulations in which it modeled the performance of a unit if operated at the DOE test procedure cooling mode conditions. Fujitsu considered cases where the number of indoor units turned on for the two minimum speed and one intermediate speed tests changed. Fujitsu reported results for three cases: the first case, all four indoor units are on for all tests; the second case, three indoor units are on for the intermediate speed test and two indoor units are on for the minimum speed tests; and the third case, two indoor units are on for the intermediate-speed test and one indoor unit is on for the minimum speed tests. (Fujitsu, No. 13 at pp. 1–2) Using the simulated data, Fujitsu reported that the first case yields the highest SEER. In comparison, Fujitsu reported that the SEER drops by 4.7 percent for the second case and by 11.6 percent for the third case. Fujitsu concluded that the number of operating indoor units may have a great impact on the result, and that the operating ranges in Table 1 were not appropriate.

TABLE 1.—APPROACH TO REGULATING THE NUMBER OF ACTIVE INDOOR UNITS

(Example Case of a Multi-Split System Having 4 Identical Indoor Units)

Percentage output relative to full load capacity	Number of operating indoor units
75% to 100%	4
50% to 75%	3
25% to 50%	2
0% to 25%	1

(DOE, No. 12.3 at p. 12)

DOE recognizes that when field installed, a multi-split system will often operate with one or more of its indoor units turned off. In an effort to have the DOE test procedure capture this part-load operating mechanism, today's final rule requires that at least one indoor unit must be turned off for tests conducted at minimum compressor speed. In addition, the manufacturer may elect to have one or more indoor units turned off for tests conducted at the intermediate compressor speed. In all cases, the manufacturer specifies the particular indoor unit(s) that is turned off.

Compressor speed. ARI, Sanyo, Fujitsu, and Mitsubishi opposed DOE's proposed definition of maximum compressor speed. (ARI, No. 21 at p. 2; Sanyo, No. 15 at p. 2; Fujitsu, No. 13 at p. 2; Mitsubishi, No. 20 at p. 4) They recommended using the rated capacity or nominal rated speed because performance at that compressor speed is used in sizing and selling the product. ARI and Sanyo supported DOE's proposal to allow the manufacturer to specify the compressor speed used for the minimum-speed and intermediate-speed tests. (ARI, No. 21 at p. 2; Sanyo, No. 15 at p. 2) Sanyo and ARI, moreover, both believe that test laboratories must accept the task of providing test facilities that can maintain steady test room conditions and accurately measure capacity at very low loads. (ARI, No. 21 on pp. 2–3; Sanyo, No. 15 on p. 2)

Regarding the maximum and minimum compressor speed issue, DOE reviewed test procedure waivers processed in the 1980's, and the 1988 test procedure rulemaking that first added coverage for air conditioners and heat pumps having a variable-speed compressor. (53 FR 8304, March 14, 1988) None of these actions explicitly defined maximum and minimum compressor speed. Instead, the manufacturer was allowed to define these speeds for its particular units. The evolution to include maximum and minimum compressor speeds among those elements that are ''conducted in accordance with the manufacturer's instructions'' occurred because of the test laboratory's need for a mechanism to override the unit's normal controls, so that the compressor can be forced to operate at fixed speeds for the DOE-specified lab tests. As part of today's final rule, DOE considered adopting a specific definition for maximum speed and requiring additional lab verification tests, but has decided against it because there is no compelling technical argument for doing so. The current approach effectively allows the manufacturer to de-rate the unit's maximum capacity in order to raise its performance descriptor. As long as that de-rated capacity is used for sizing the particular multi-split combination, then the practice is acceptable. DOE, however, does not agree with substituting ''nominal'' or ''rated'' compressor speed for ''maximum'' compressor speed, as that will not allow for test results that can be used to generate a performance map representing how particular multi-split combinations will operate in the field.

The DOE test procedure will continue to require variable-speed systems to be tested at their minimum compressor speed. Manufacturers will be relied upon to provide the independent testing laboratory with a means for conducting tests at this speed. Minimum speed may not be the absolute minimum speed at which the compressor can operate, but

it is expected to be a speed below which the compressor would rarely operate. DOE concurs with Sanyo and ARI and expects test laboratories to measure performance over the wide modulation range that is characteristic of multi-splits. Thus, to the issue of what compressor speed to use when conducting minimum speed and maximum speed tests, DOE is maintaining the current test procedure language in sections 3.2.4 and 3.6.4 of Appendix M.

DOE adopts the July 2006 proposed change of allowing the manufacturer to specify the compressor speed used for the cooling and heating intermediate speed/capacity tests. This change provides the manufacturer an opportunity to select and verify the peak-efficiency of the unit being tested. Coupled with this change, and as also proposed in the July 2006 notice, steady-state efficiency (EER and COP) over the intermediate-speed range shall be calculated using piece-wise linear fits: a line connecting the minimum- and intermediate-speed balance points and a line connecting the intermediate- and maximum-speed balance points.

One-to-one applicability. Carrier noted the need for transparency in testing and manufacturer test results so that interested parties can verify the performance claims without having to consult the manufacturer. (Carrier, No. 17 at p. 2) Trane and ARI pointed out that any steps introduced to facilitate testing and rating modulating multi-split systems should also be allowed for modulating one-to-one ducted systems to promote comparability. (Public Hearing Tr., pp. 87 and 118; ARI, No. 21 at p. 3) With respect to Carrier's comment, variable-speed systems do not lend themselves to being tested by a third party who does not have the cooperation of the outdoor unit manufacturer. Third-party certification programs thus become especially important as they offer the primary pathway for independent verification. For those multi-split products that are not covered by a third-party certification program, DOE can request from the manufacturer the information needed to conduct such testing along with reviewing the lab test results maintained by the manufacturer, that substantiate the multi-split system's ratings. 10 CFR 430.62(d).

Of the changes being implemented today to allow testing and rating of residential modulating multi-split systems, two changes could be applied to variable-speed one-to-one units. Together, these two changes would allow the manufacturer to specify the compressor speed used for the intermediate-speed tests and then use linear fits for calculating COP and EER within the intermediate-speed operating range. Adopting these two changes for variable-speed one-to-one units would create a second compliance path that would likely cause different SEER and HSPF ratings than the current test procedure. Therefore, in adopting these changes, DOE is not extending them to variable-speed one-to-one units. Although DOE expects the current test procedure to yield the higher ratings for one-to-one units, it will rely on the waiver process if any manufacturer seeks to adopt these two multi-split test procedure changes for use in rating variable-speed one-to-one units.

Tested combination. On the issue of the ''tested combination''—the equipment configuration that can be tested in the laboratory and thereby provide a common basis for comparison—Sanyo, Fujitsu, Mitsubishi, and ARI recommended deleting the requirement that the selected indoor units ''represent the highest-sales-volume type models'' and replacing it with ''represent the highest sales model family.'' (Sanyo, No. 15 at p. 3; Fujitsu, No. 13 at p. 4; Mitsubishi, No. 20 at pp. 5 and 6; ARI, No. 21 at p. 6) In addition, Sanyo, Fujitsu, Mitsubishi, and ARI recommended that provisions be made in the event that five of the largest model indoor coils from the selected model family cannot provide a cumulative indoor capacity that is more than 95 percent of the outdoor unit's nominal capacity. As to references in the proposed definition that a manufacturer will know the capacity of each indoor unit and each outdoor unit, Copeland Corporation (Copeland) questioned how the manufacturer would determine component capacities. (Public Hearing Tr., pp. 217–221) Finally, with regard to the proposal that all of the tested indoor units ''have the same external static pressure,'' Trane asked how to interpret that requirement if testing a ducted multi-split system having indoor units that have different minimum external static pressure requirements. (Public Hearing Tr., p. 229)

DOE accepts the stakeholder recommendation of substituting the phrase ''represent the highest sales model family'' for the originally proposed wording, ''represent the highest sales volume type models,'' because it has essentially the same meaning, but is clearer. Although it is more an issue with commercial multi-split systems, DOE accepts the proposed wording to clarify the tested combination since it is more important to obtain a cumulative indoor capacity that matches the outdoor unit than it is to restrict selection to units from the highest sales model family, for cases where both criteria cannot be met. As for Copeland's statement that the definition includes references to the capacity of the outdoor unit and the cumulative capacities of the indoor units even though no prescriptions are given to evaluate these capacities, DOE agrees but nonetheless will allow their use in this particular definition. Manufacturers are able to estimate the rated capacities of the separate components without conducting the rigorous testing associated with ARI Standards 410 (''Forced-Circulation Air-Cooling and Air-Heating Coils'') and 540 (''Performance Rating of Positive Displacement Refrigerant Compressors and Compressor Units'') on each new model. Finally, the last element of the proposed definition of ''tested combination'' will be changed from ''all have the same external static pressure'' to ''all be subject to the same minimum external static pressure requirement (i.e., 0 inches of water column for non-ducted, see Table 2 in Appendix M for ducted indoor units) while being configurable to produce the same static pressure at the exit of each outlet plenum when manifolded as per section 2.4.1 of Appendix M.'' This additional information is provided so that the test laboratory may conduct the lab testing by manifolding the outlets of all the indoor units together and using one airflow measuring apparatus to determine the cumulative air volume rate.

At the August 23, 2006, public meeting, DOE restated its proposed interim solution for assigning SEER and HSPF ratings for untested multi-split combinations. This interim solution—to assign the rating measured for the tested combination to every other combination using the same outdoor unit—was included as part of the March 24, 2006, **Federal Register** notice that published a petition for waiver from the residential package air conditioner and heat pump test procedures that was received from Mitsubishi Electric and Electronics USA, Inc. (Case No. CAC–012). 71 FR 14858. This provision was not in the July 2006 proposed rule, but was discussed at the public meeting and relevant comments were received in the course of the waiver process. Lennox and Copeland commented that the rated system's combination of indoor units could be very different from those in the tested system, and the ratings agreement would be poor in this case. (Public Hearing Tr., pp. 245–246)

Because of the difficulty of prescribing similarity of indoor unit

combinations, and with the belief that a rating that reflects the ''highest sales model family'' is better than no rating, DOE is including this ratings provision in the final rule, with the additional stipulation that multi-split manufacturers must test two or more combinations with each outdoor unit unless they have an approved ARM (in which case, they only need to test one combination). 10 CFR 430.24(m)(2). One system shall be tested using only non-ducted indoor units that meet the definition of a tested combination. The second system shall be tested using only ducted indoor units that meet the definition of a tested combination. The rating given to any untested multi-split system combination having the same outdoor unit and all non-ducted indoor units shall be set equal to the rating of the tested system having all non-ducted indoor units. The rating given to any untested multi-split system combination having the same outdoor unit and all ducted indoor units shall be set equal to the rating of the tested system having all ducted indoor units. Finally, the rating given to any untested multi-split system combination having the same outdoor unit and a mix of non-ducted and ducted indoor units shall be set equal to the average of the ratings for the two required tested combinations. 10 CFR 430.24(m)(2)(ii). Furthermore, DOE notes that it is including a provision for the use of an alternate rating method. While DOE is not aware of any algorithms appropriate for rating the energy efficiency of untested multi-split system combinations, DOE expects that as more laboratory test data and field use data become available, such algorithms will be developed.

Today's final rule contains a minor update that was introduced in the July 2006 proposed rule, removing the limit on having only one indoor test room. No comments were received on this proposed change.

Today's final rule sufficiently addresses issues that led to the requesting and granting of test procedure waivers for several models of residential multi-split systems. Therefore, all existing waivers concerning *residential* modulating multi-split systems terminate on the effective date of today's final rule. Multi-split manufacturers may use the waiver process described in 10 CFR 430.27 to petition for modification of today's test procedure, if necessary.

C. Defining ''Repeatable'' for Cyclic Tests

The July 2006 proposed rule contained two provisions that further defined repeatable performance during cyclic tests. One was the requirement that the time-integrated air temperature difference across the indoor unit for consecutive ''on'' cycles must change by 0.05 °F hr or less while the other was for the average system power consumption for the complete ''OFF/ON'' interval to change by 10 watts or less from one cycle to the next.

ARI, Sanyo, Carrier, and Nordyne commented that repeatability should be addressed by ASHRAE's Standards Project Committee (SPC) 116, ''Method of Testing for Rating Seasonal Efficiency of Unitary Air Conditioners and Heat Pumps,'' not by the DOE test procedure (ARI, No. 21 at p. 3; Sanyo, No. 15 at p. 5; Carrier, No. 17 at p. 2; Nordyne, No. 19 at p. 2) Finally, ACEEE supports DOE's efforts to capture the essence of industry best practices for cyclic testing. (ACEEE, No. 16 at p. 4)

DOE recognizes that variability is inherent in testing products for energy efficiency, including central air conditioners and central air conditioning heat pumps. In order to reduce test variability and increase repeatability of test results, DOE has set specific requirements for test set-up and measurement to reduce variability. However, even with these requirements, test variability remains. Furthermore, DOE notes that the less repeatable the test, either more units need to be tested to support an energy efficiency rating that is representative of the units true energy efficiency or, if less testing is done, the product must be rated conservatively (i.e., lower energy efficiency rating).[4] Test variability can be further reduced by, for example, including more specific requirements in the DOE test procedures as well as through industry actions, such as ASHRAE Standard 116. However, changes to the DOE test procedures to deal with test variability could increase the burden and cost of testing. Since the purpose of this requirement was to reduce variability and there are alternative approaches manufacturers can take to reduce variability, DOE is not adopting the cyclic changes proposed. Therefore, as part of today's final rule, DOE makes no changes on defining repeatability during cyclic tests.

D. Outdoor Air Test Conditions for Units Having a Two-Capacity Compressor

The July 2006 proposed rule included provisions that dealt with the outdoor test conditions for three low-capacity cooling mode tests. The three low-capacity tests are conducted at different outdoor dry bulb temperatures (i.e., steady-state, wet-coil test at 95 °F outdoor dry bulb temperature (the A_1 Test); the steady-state, dry-coil test at 82 °F (the C_1 Test); and the cyclic, dry-coil test at 82 °F (the D_1 Test)). The July 2006 proposal was to have all three of these tests replaced by equivalent tests conducted at an outdoor dry bulb temperature of 67 °F.

ARI, Carrier, and Nordyne supported replacing the A_1 Test with the steady-state, wet-coil, F_1 Test at 67 °F because the change will close a potential loophole in the current test procedure. (ARI, No. 21 at p. 3; Carrier, No. 17 at p. 2; Nordyne, No. 19 at p. 2) This loophole allowed manufacturers a way to increase the measured SEER by disproportionately increasing the electrical power consumption during the A_1 Test. ACEEE supported the change in the temperature in the A_1 test, but expressed its concern that the change may downgrade the importance of high temperature performance. (ACEEE, No. 16 at p. 4) ARI, Carrier, and Nordyne commented that the change in the C_1 and D_1 tests is unnecessary since these tests are optional and the changes will do very little to improve the accuracy of SEER. (ARI, No. 21 at p. 3; Carrier, No. 17 at p. 2; Nordyne, No. 19 at p. 2) Carrier also expressed its concern that products designed and tested under the current methodology may have to be re-rated as a result of the proposal. (Carrier, No. 17 at p. 2) In terms of the test procedure, Carrier is concerned that a different cyclic-degradation coefficient (C_D) may result from replacing the C_1 and D_1 Tests with equivalent tests at 67°F.

Collectively, the three proposed changes make the test conditions for two-capacity units consistent with the test conditions specified for variable-speed systems. Implementing all three changes would result in a more normal test progression for most two-capacity units: all wet coil tests followed by the dry coil test; start with high capacity tests and end with the low capacity tests; and start at 95 °F, progress to 82 °F, and then end with 67 °F. These benefits, however, cannot be realized because of the possibility of causing a change in the SEER ratings of some two-capacity units. Thus, DOE agrees with the general position of the comments that the proposal to change the outdoor test conditions for the two optional dry-coil C_D tests (C_1 and D_1 tests) is not warranted.

[4] SEER and HSPF values, per the sampling plan in 10 CFR 430.24, are to be based on the lower 90 percent confidence limit of the true mean divided by 0.95 (as opposed to the sample mean), thus the more variability in test results, the more likely that a product's SEER and HSPF ratings will have to be reduced from the true mean.

Therefore, today's final rule replaces the A_1 Test with the F_1 Test, as proposed. The F_1 Test requires an outdoor dry bulb temperature of 67 °F, and for those few cases where it applies, an outdoor wet bulb temperature of 53.5 °F. The amendments discussed above are found in sections 3.2.3 and 4.1.3 of Appendix M.

E. Air Volume Rate Less Than Manufacturer's Specified Value

In the July 2006 proposed rule, and the October 10, 2006, correction notice, DOE proposed modifications to the criteria for using an air volume rate that is less than the manufacturer's specified value. The proposal was made to account for the variability in fan motors, housings, and wheels. In brief, the proposed set-up process for the test procedure provides for making incremental adjustments in the indoor fan speed until the indoor unit provides an external static pressure that is equal to or greater than the applicable DOE minimum (i.e., 0.1, 0.15, or 0.20 inch of water column, if a non-small-duct, high-velocity (SDHV) system), while operating at the manufacturer-specified air volume rate or, if needed, at the air volume rate between 95 percent and 100 percent that produces the corresponding DOE minimum static pressure value. For comparison, the current algorithm in the DOE test procedure does not allow the air volume rate to be reduced from 100 percent for the case where the external static pressure is less than specified by the test procedure. The proposed criteria apply to all ducted blower-coil systems, except those having a variable-speed motor that is controlled based on maintaining a constant air volume rate. The proposed criteria include two cases where the test laboratory is instructed to operate at an air volume rate less than that specified by the manufacturer: (1) If the highest indoor fan speed setting cannot yield the DOE-specified external static pressure minimum while supplying the manufacturer-specified air volume rate, and (2) if the manufacturer's specified air volume rate yields a ratio higher than 37.5 standard cubic feet per minute (scfm) per 1000 Btu/h.

Nordyne, Carrier and Rheem supported the proposed criteria for using an air volume rate that is less than the manufacturer's specified value. (Nordyne, No. 19 at p. 2; Carrier, No. 17 at p. 3; Public Hearing Tr., p. 135; and Public Hearing Tr., pp. 134–135) ACEEE commented that since the proposed language specified which product designs would be subject to this requirement, they recommended that the wording for the types of indoor blowers that are affected by this change be as generic as possible so as not to impede product innovation. (Public Hearing Tr., pp. 132–133)

DOE agrees with ACEEE that the proposed language could limit innovation since the proposed amendment was intended to apply to designs that are not adequately addressed by the current air volume requirements. Since it is impossible to predict what product designs may enter the marketplace, specifying the designs subject to the new provisions may, in fact, limit innovation. Therefore, in response to ACEEE's comment, DOE restructured the air volume criteria to indicate that the change applies to all designs, except variable-speed, constant-air-volume-rate blowers. In this way, the variable-speed, constant-volume-rate blowers, which the existing test procedure adequately addresses, continue to be subject to the existing requirement.

F. Updating References to Industry Standards

The July 2006 proposed rule included updates to references to current industry test standards, including ASHRAE Standard 23–2005, ''Methods of Testing for Rating Positive Displacement Refrigerant Compressors and Condensing Units,'' ASHRAE Standard 37–2005, ''Methods of Testing for Rating Electrically Driven Unitary Air-Conditioning and Heat Pump Equipment,'' and ASHRAE Standard 116–1995 (RA2005), ''Methods of Testing for Rating Seasonal Efficiency of Unitary Air Conditioners and Heat Pumps.'' Nordyne commented in support of this proposal. (Nordyne, No. 19 at p. 2)

In addition, subsequent to the publication of the July 2006 proposed rule, ARI released an updated version of ARI Standard 210/240, ''Performance Rating of Unitary Air-Conditioning and Air-Source Heat Pump Equipment.'' The updated version of ARI Standard 210/240 included references to the DOE test procedure as amended by the final rule published on October 11, 2005. This latest version of ARI Standard 210/240 had not been released at the time that the content of the July 2006 proposed rule had been finalized. Since the updated test procedures do not affect the measure of efficiency and provide manufacturers with current test standards, DOE moves today to adopt the 2006 version of ARI Standard 210/240.

G. Maximum and Minimum Speed Values for Calculating N_Q and N_E

Rheem inquired as to whether the minimum and maximum speed quantities needed to evaluate Appendix M equations 4.1.3–1 and 4.1.3–3 are to be determined directly from additional lab testing or from interpolating data from required tests lab tests at 67 °F, 82 °F, and 95 °F. (NIST, No. 24 at p. 2) In response, for cooling performance, DOE modified section 4.1.4 to explicitly state that the capacities and $\dot{Q}_c^{k=1}$ (87) and $\dot{Q}_c^{k=2}$ (87), which are used as part of the algorithm for approximating the slope of the intermediate compressor speed (k=v) capacity curve, are determined by evaluating equations 4.1.3–1 and 4.1.3–3, respectively, for T_j = 87. Similar direction is provided for determining the power consumption quantities $\dot{E}_c^{k=1}$ (87) and $\dot{E}_c^{k=2}$ (87) that appear within the section 4.1.4 equation for N_E. For heating performance, such direction already exists within the section on calculating the HSPF for a variable-speed heat pump, with regard to the source of the minimum speed quantities at 35 °F.

This change does not affect the calculated SEER. The revised text is found following the equation for N_E in section 4.1.4 of Appendix M.

H. Using the Default or Tested Value of Cyclic-Degradation Coefficient

Carrier asked if the manufacturer elects to run the optional tests, and the resulting C_D exceeds the 0.25 default value, is the manufacturer obligated to use the tested value. (Public Hearing Tr., p. 31) The current test procedure addresses this scenario for most cases where a C_D is used in the SEER and HSPF calculations. Specifically, sections 4.1.1, 4.1.2.1, 4.1.3.1, 4.1.4.1, 4.2.1, and 4.2.3.1, direct that if the optional test(s) are not conducted, the cooling (heating) cyclic-degradation coefficient, C_D^c (C_D^h), is to be set to the default value of 0.25. If the optional test(s) are conducted, C_D^c (C_D^h) must to be set to the lower of: the value calculated per the test or the default value of 0.25. In response to Carrier's comment, DOE has added similar wording to sections 4.1.3.3 and 4.2.3.3, the only sections that did not include the clarifying language found in the sections referenced above.

Furthermore, in reviewing the organization of the current test procedure while considering this update, DOE found that the information would be better placed in the earlier sections (within section 3) with the instructions as to which tests to conduct based on the type of equipment (i.e.,

single-speed, two-capacity, variable-speed, etc). Therefore, language has been added in the test procedure to clarify that if the tested cyclic-degradation coefficient is higher than the default value, the default value is to be used to calculate SEER and HSPF. (see sections 3.2.1, 3.2.2.1, 3.2.3, 3.2.4, 3.5.3, 3.6.1, 3.6.2, 3.6.3, 3.6.4, 3.8.1, 4.1.3.3, and 4.2.3.3).

I. Guidance on the Inclusion of Pre-Production Units in the Sample Population

As part of the July 2006 proposed rule, DOE proposed that only pre-production units fabricated using the same tooling used for the eventual full-production units could be used as part of the tested sample population to obtain the certified ratings of full-production units.

ARI, Nordyne, and Carrier commented that the proposed wording is too narrow, and recommended that the current regulatory language not be changed. (ARI, No. 21 at p. 4; Nordyne, No. 19 at p. 3; Carrier, No. 17 at p. 2) ARI and Trane explained that the tooling used for pre-production units is often different than that used for production units. (Public Hearing Tr., pp. 192–193) Trane stated that pre-production units must have the same configuration as the production unit to be included in the sample population, while Carrier suggested using wording such as that in the ARI Certification Program Operational Manual to define the configuration (e.g., same compressor, same air flow, etc.). (Public Hearing Tr., pp. 192, 198–199) Rheem commented that the ARI internal process handles ratings derived from pre-production units by making the model subject to certification testing immediately after production starts. (Public Hearing Tr., p. 202)

DOE agrees that the proposed criterion is too narrow, and that different tooling can yield equivalent machinery. Moreover, DOE believes that spot checks conducted under an industry certification program, such as the ARI Certification Program, provide a safeguard against the performance of the production unit deviating appreciably from ratings derived from testing pre-production units. For these reasons, DOE is not amending the existing requirements and will continue to allow manufacturers to test pre-production units.

J. Clarification of the Sample Population Used To Validate the Rated Seasonal Energy Efficiency Ratio and Heating Seasonal Performance Factor of Heat Pumps

DOE proposed that a manufacturer must include the cooling and heating results from each heat pump of the sample population when obtaining the certified SEER and HSPF ratings. This requirement disallows testing multiple heat pumps and then using a subset of results for assigning the certified SEER rating and a different subset of results for determining the certified HSPF rating. The proposal provided one exception, which would allow additional testing in just one mode, cooling or heating, if the manufacturer elected to discontinue testing in the other mode at some point in the sample sequence.

ACEEE, Nordyne, and Carrier supported the intent of clarifying the sample population used for determining heat pump ratings. (ACEEE, No. 16 at p. 5; Nordyne, No. 19 at p. 3; Carrier, No. 17 at p. 2) Carrier and the ACEEE, however, recommended deleting the exception, noting that additional testing is insignificant as compared to the potential for misrepresented ratings. (Carrier, No. 17 at p. 2; ACEEE, No. 16 at p. 5)

DOE is aware of the testing burden on manufacturers, but agrees with Carrier and the ACEEE that this particular attempt at marginally reducing the test burden is not worthwhile. Thus, today's final rule adopts the proposal that all units of the sample population must be tested in both the cooling and heating modes and the results used for determining the heat pump's certified SEER and HSPF ratings without adopting the proposed exception for additional testing.

K. Clarification of the Definition of a ''Highest-Sales-Volume Combination''

DOE proposed amendments to the definition of the Highest-Sales-Volume Combination (HSVC) to require that a single-speed, split-system air conditioner must include the coil-only indoor unit likely to have the largest volume of retail sales with the particular model of outdoor unit. Proposed 10 CFR 430.24(m)(2). In addition, DOE proposed exceptions to this requirement to provide for equipment designed exclusively for blower-coil installations: mini-splits; multi-splits; small-duct, high-velocity systems; through-the-wall units; and condensing units having features (e.g., proprietary interfaces) that prevent their installation with third-party, coil-only indoor units. This proposal was made in recognition that coil-only units represent the overwhelming majority of installations of central air conditioners and, as such, the highest-sales-volume should reflect standard practice. The proposal also minimizes instances where the highest-sales volume combination of a split-system air conditioner could be defined as one with a ''blower-coil'' in order to meet Federal minimum energy efficiency standards and then have the outdoor unit combined with coil-only indoor units where the combination would not meet the Federal energy efficiency standards.

ACEEE, Carrier and ARI agreed that some clarification to the test procedure was needed in order to avoid such situations. (ACEEE, No. 16 at p. 5; ARI, No. 21 at p. 4; Public Hearing Tr., pp. 208–209) ACEEE supported the goal of not having outdoor units installed with coil-only indoor units where the combination does not meet the energy efficiency standard. (ACEEE, No. 16 at p. 5) Instead of the proposed text, ARI and Carrier recommended that DOE adopt the wording from the *2006 ARI Certification Program Operational Manual for Unitary Air Conditioners & Air-Source Unitary Heat Pumps (Rated Below 65,000 Btu/h Cooling)*. (ARI, No. 21 at p. 4; Public Hearing Tr., pp. 208–209) Carrier and ARI commented that the proposed exception for outdoor units that prevent installations with coil-only units with a proprietary interface should be eliminated because it is not enforceable. Nordyne strongly objected to the entire proposal, stating that it restricts a manufacturer's use of technology. (Nordyne, No. 19 at pp. 3–4) Moreover, to implement such a change, Nordyne asserted that DOE needs to analyze the impact of minimally compliant units. Nordyne, however, did note its support for the proposed exception for blower coils having a proprietary interface.

ARI and Carrier recommended the following alternative text to the July 2006 proposed rule:

HSVTC, Highest-sales-volume Tested Combination. For Unitary Air-Conditioners below 14 SEER, the HSVTC must be an RCU-A-C combination, except for through-the-wall and ductless equipment (RCU-A-CBO). For Unitary Air-Conditioners 14 SEER and above, every outdoor model number must have a coil-only rating. Coil-only ratings offered for sale must be publicly viewable. Coil-only ratings not offered for sale are viewable only to ARI staff. Non-viewable ratings fall under all compliance guidelines except the challenge procedure. If a non-publicly viewable rating falls below NAECA minimum, then the manufacturer must submit a coil-only rating that meets NAECA minimum and is verified through ARI testing.

Until then, the Basic Model Group ratings will not be listed in the ARI directory.

Historically, the highest sales volume combination for most split-system air conditioners has had a coil-only indoor unit. Both the June 2006 proposed rule and the ARI alternative maintain this historical practice. DOE, however, believes ARI's approach is arbitrary and results in uncertainties to manufacturers. Furthermore, DOE believes it would be difficult to implement the above ARI algorithm. With the ARI approach, the manufacturer may have to re-test in a coil-only configuration after having tested in a blower-coil configuration, if the expected SEER of 14 or higher is not realized in laboratory testing. In addition, if DOE were to adopt the ARI alternative and the minimum energy efficiency standards were amended, DOE would have to modify the requirement, since the new minimum could be higher than the 14 SEER requirement in the ARI alternative. Conversely, in formulating the approach proposed in the July 2006 proposed rulemaking, DOE first considered requiring that all split-system air conditioners be tested with a coil-only indoor unit. DOE recognized, however, that in addition to the exceptions such as equipment designed exclusively for blower-coil installations, other exceptions would have to be recognized. These other exceptions include two-capacity and variable-speed units, because they are always much more efficient than 14 SEER, and do not risk having a coil-only combination that would not meet the DOE efficiency standards. Therefore, DOE applied the coil-only requirement only to split system air conditioners having a single-speed compressor.

Returning to the issue of listed exceptions, DOE agrees with ARI and Carrier that the proposed exception for combinations that prevent applications with third-party coil-only indoor units would be prohibitively difficult to define, verify, and enforce. DOE believes that its proposal to substitute the words ''mini-splits'' and ''multi-splits'' for ''ductless equipment,'' is somewhat more comprehensive because it includes ducted multi-split systems. Finally, SDHV manufacturers, at present, only manufacture indoor coils and do not manufacture outdoor units. Since SDHV manufacturers do not offer for sale complete systems, they are not subject to specifying HSVC's. Thus, SDHV systems do not need to be included as an exception.

As to Nordyne's objections, DOE stands by its position as stated in the July 2006 proposed rule. DOE believes that its proposal, which is adopted in today's final rule, increases the likelihood that the outdoor unit, in combination with any compatible indoor unit, will meet the federal energy efficiency standards. This is because the proposal which is adopted today ensures that the tested combinations, upon which most ratings are based, reflect the outdoor-indoor combinations most likely to be sold. Furthermore, this language does not limit technology options to manufacturers, since the test procedure allows for representations of other than the highest-sales-volume combination.

With regard to Nordyne's comment that DOE needs to analyze the impact of the clarifications on minimally compliant units, DOE fails to see how the clarification in the definition will alter the rating of a particular split-system air conditioner. The clarification ensures that the highest-sales-volume split-system air conditioner—which is subject to testing—yields ratings reflective of the outdoor-indoor combinations most likely to be sold. For split-system air conditioners ''representative'' and ''highest sales'' historically equate to coil-only indoor units. Only mini-splits, multi-splits, and through-the-wall units can currently argue for an exception, since, in these cases, the outdoor units would be sold in combination with specific indoor units which would include a fan and a coil.

Therefore, DOE is adopting the language of the July 2006 proposed rule, to require that the highest sales volume combination of a single-speed, split-system air conditioner must include the coil-only indoor unit likely to have the largest volume of retail sales with the particular model of outdoor unit. The only change from the proposed rule is to limit the exceptions to mini-splits, multi-splits, and through-the-wall units.

L. Upper Limit on the Difference Between Calculated and Tested Seasonal Energy Efficiency Ratio and Heating Seasonal Performance Factor Values

DOE proposed setting a 5 percent limit on the amount that a rating for an untested split-system combination could exceed the rating of the corresponding HSVC. 71 FR 41330, July 20, 2006. The proposed limit only applied to applications where both combinations used coil-only indoor units. Ratings based on testing are not subject to the 5 percent limit. Manufacturers seeking a rating that exceeds the 5 percent limit can do so by testing the particular coil-only combination. The proposed approach applied to untested combinations offered by system manufacturers and by independent coil manufacturers (ICM's).

ACEEE commented in support of the proposal to limit the difference between calculated and tested SEER and HSPF values. (ACEEE, No. 16 at p. 5) Carrier and Nordyne also supported the DOE proposal for SEER ratings but Carrier does not believe a similar cap is required for HSPF ratings. (Carrier, No. 17 at p. 3; Nordyne, No. 19 at p. 4) Using data from the September 2006 ARI Online Directory, Carrier found that the proposed 5 percent SEER limit would affect the ratings of 1.05 percent of OEM coil-only combinations and 13.87 percent of ICM coil-only combinations. (Carrier, No. 17 at p. 4) At the public meeting, Carrier offered similar statistics to show that ICM's, in general, rate condenser-coil combinations employing the same condenser at higher efficiencies than the OEM's. Carrier also offered statistics to show that a small number of ICM's provide most of the ratings that are more than 5 percent higher than the OEM rating for the highest-sales combination. (Public Hearing Tr., p. 265) Carrier also cites the September 2006 NIST ''Survey of SEER Ratings for Independent Coil Manufacturer Mixed Systems'' as demonstrating the need to address the issue. (Carrier, No. 17 at p. 3)

Lennox disagrees with the June 2006 proposal. Lennox points out that the proposed 5 percent limit is not technically supported and that the practical limit is more likely 13 percent than 5 percent. Lennox notes that the NIST report referenced above states that ''maximum gains in SEER associated with coil capacity and improved expansion devices are approximately 10 percent and 2.5 percent, respectively.'' (Lennox, No. 22 at p. 1) Lennox reports that an independent laboratory tested two different condensing units having 13 SEER HSVC ratings with an alternate, non-HSVC, evaporator coil. According to Lennox, the non-HSVC tested combinations produced SEER ratings 7.9 and 11.8 percent higher than the 13.0 SEER rating of the HSVC units. Lennox argues that data analysis conducted by Carrier is incomplete and that having to test combinations that are projected to exceed the 5 percent limit will be overly burdensome. Lennox further stated that the combination of DOE approval of the ARM, governmentally enforceable penalties for overrating, and an industry-sponsored certification program ''ensure a reasonable level of rating integrity and result in a full availability of cost

effective, higher efficiency combinations for consumers.'' (Lennox, No. 22 at p. 2)

ARI commented that the DOE proposed 5 percent upper limit is arbitrary and will unduly penalize manufacturers who participate in the ARI certification program. Furthermore, ARI commented that inconsistent ratings for untested split-system combinations have been discussed at length with the appropriate ARI committees for quite some time, and, based on these discussions, significant changes were made to strengthen the credibility of the ARI certification program. (ARI, No. 21 at p. 5) For example, ARI commented that coil-only combinations (system manufacturers and ICMs) with SEER ratings that are 6 percent above the SEER rating of the highest-sales-volume tested combination are automatically subject to testing as part of the ARI certification program. (ARI, No. 21 at p. 5)

The analysis conducted by Carrier and NIST certainly justifies further scrutiny of ratings of untested combinations of split-system central air conditioners. The SEER ratings reported by Lennox raise a few questions, while suggesting that the proposed mechanism and 5 percent limit may not be adequate, but Lennox doesn't offer an alternative. For example, how much of the ratings difference is a result of the better performance of the mixed system indoor units? How much of the ratings difference results from the HSVC rating being conservative '' *i.e.*, although rated at 13.0, the tested SEER of the HSVCs is likely higher? If the percent differences reported by Lennox had been based on the measured SEER of the HSVC, the respective magnitudes would likely have been less, possibly much less.

As for Lennox's comment that the NIST report supports a higher percentage, DOE notes that the NIST analysis only commented on the effect of increased coil capacity and an improved expansion device, two factors that increase SEER. The impact of the larger coil on compressor power consumption, however, was believed negligible even though it too would typically increase. Thus, for the nominal case where a power increase accompanies the capacity gain, the maximum SEER increase predicted by the long-standing NIST ARM is in the 9 to 10 percent range, higher than the 5 percent limit proposed in the NOPR, but less than the maximum increase stated by Lennox.

Upon consideration of the above comments, DOE believes that its 5 percent limit, as proposed, is deficient. DOE still believes that more scrutiny of untested combination ratings is warranted. However, DOE finds, from a review of the data and comments received, that the ratings of some non-HSVCs are higher that what would seem warranted. DOE supports the steps recently implemented by ARI's certification program to more frequently check combinations having suspect ratings. Moreover, DOE is amending the test procedure to emphasize its right to obtain information that is the basis for any manufacturer's rating. DOE will require documentation to justify ratings more than 6 percent higher that the rated efficiency of the HSVC unit. If DOE questions the rating, the manufacturer will be responsible for verifying the ARM, and supplying to DOE the ARM used and furnishing the specific input parameters used for each condenser-evaporator combination, the energy efficiency rating of the HSVC, the energy efficiency results of the ARM, and the rated energy efficiency of the units in question. Furthermore, the manufacturer must be prepared to provide the information source and/or justification for any input parameter.

In summary, DOE is not adopting the proposed 5 percent limit on the maximum amount that a rating for an untested coil-only split-system can exceed the rating of the HSVC. Instead, DOE will evaluate the improvements available through using new and improved ARMs and the results from internal changes made as part of the ARI Certification Program. DOE will give follow-up priority to individual combinations having questionably high ratings (for example, a coil-only system having a rating that exceeds the rating of a coil-only highest sales volume combination by more than 6 percent). The text that sets forth DOE's authority to examine ratings for untested split system combinations is found in 10 CFR 430.24(m)(5) of today's rule.

M. Clarification of the Published Ratings for Untested Split-System Combinations

DOE proposed amendments to 10 CFR 430.24(m)(4) to require published ratings for an untested split-system combination to be equal to, or lower than, the value calculated using the DOE-approved ARM. 71 FR 41336. The proposed language specifically recognized that a manufacturer may use laboratory data from the HSVC testing to adjust or ''tune'' its ARM, or a simulation subcomponent, when calculating the ratings for untested combinations that use the same outdoor unit. Under the proposal, the amount of adjustment is limited to a 5 percent increase in the calculated rating compared to the rating obtained using the ARM without the adjustment/tuning factor. The purpose is to limit the amount of manufacturer's ''tuning'' of ARMs, without resubmitting the ARM for DOE review in accordance with 10 CFR 430.24(m)(5). DOE is concerned that the ''tuned'' ARMs will result in a different model than the one the Department had reviewed and approved under 10 CFR 430.24(m)(5). The changes were proposed to improve the current regulatory language that states the ARM must be used to obtain ''representative values of the measures of energy consumption.'' 10 CFR 430.24(m)(2)(ii).

ARI commented that ''untested'' combinations are subject to verification testing in the ARI Certification Program and so placing a limit on the adjustment factor is unwarranted for combinations listed in the ARI directory. (ARI, No. 21 at p. 5) Carrier commented that any adjustment based on actual testing to be not only allowable but desirable. (Carrier, No. 17 at p. 3) Nordyne was willing to consider the concept of a maximum allowable adjustment but stated that the exact values and the specific wording needed further review. (Nordyne, No. 19 at p. 4)

In reviewing its files of ARMs that DOE has approved, DOE finds that none reference an ARM/simulation adjustment factor, or equivalent. Yet, the use of such adjustment factors appears to be common. This situation, along with the fact that most manufacturers' ARMs have not been updated in many years, and that most, if not all, of the models upon which the ARMs were based have been removed from the marketplace because they did not meet the 13 SEER standard leads DOE to conclude that it is likely some ARMs need the adjustment factor in order to correctly predict the efficiency of untested combinations.

In view of the foregoing, DOE is amending 10 CFR 430.24(m)(5) to require published ratings for an untested split-system combination to be equal to, or lower than, the value calculated using the DOE-approved ARM. The practice of ''tuning'' an ARM or computer simulation by using laboratory data from tests on the HSVC or any other split-system combination tested in accordance with the sample plan of 10 CFR 430.24(m), and then using the tuned ARM to calculate the ratings for untested combinations that use the same outdoor unit, is now referenced in 10 CFR 430.24(m)(4). DOE, however, is not adopting a limit on how much the SEER/HSPF rating, calculated using an ARM, may exceed the rating obtained without using the adjustment factor.

N. Ratings That Are Based on Using a Particular Furnace or Ducted Air Mover

DOE proposed having manufacturers document those published ratings that are based on a complete system consisting of a coil-only air conditioner or heat pump and a particular model of furnace. The model number of the furnace would be published, most likely in addition to the indoor unit model number.

ACEEE supported the measure, as originally proposed. (ACEEE, No. 16 at p. 5) Nordyne and ARI also supported the measure but suggest replacing the word ''furnace'' with a more generic term so that the requirement is extended to all indoor air movers. (Nordyne, No. 19 at p. 4; ARI, No. 21 at p. 6) Nordyne suggests using ''indoor blower'' and ARI suggests ''ducted air mover.''

DOE accepts the recommendation of using generic wording to clearly convey the equipment components that contribute to the published rating, and selects the description ''ducted air mover.'' DOE adopts revised text for 10 CFR 430.62(a)(4)(i) and (ii) that explicitly states that the model number of the ducted air mover, if applicable, must be included among the manufacturer's model numbers submitted on the certification report to DOE. Compared to the wording proposed in the July 2006 proposed rule, today's revision is simpler, in that it does not repeat text from 10 CFR 430.62(a)(4) in sections 430.62(a)(4)(i) and (a)(4)(ii).

O. Revisions to the Definition of ''Coil Family''

DOE proposed minor modifications to the existing definition of ''coil family,'' to improve its readability and make it easier to understand. 71 FR 41335. Nordyne and Rheem asked for clarifications to the proposed language. (Nordyne, No. 19 at p. 4)

Concerning Nordyne's comment, DOE had no intention other than to offer a few editorial improvements, and to heighten awareness of the definition among stakeholders, given the related discussion of ARMs. As proposed, DOE viewed the substantive content of the definition as adequate for the purpose of designating what split systems may be used for verifying an ARM. There was no change proposed to the definition of ''coil family'' with respect to coil circuitry. In both the current and proposed test procedures, ''coil circuitry'' is included in a list of design features that affect heat exchanger performance. In responding to the question raised by Rheem, NIST asked attendees at the public meeting how to define coil circuitry. Trane responded that if this coil differentiating feature were deleted then it wouldn't have to be defined. (Public Hearing Tr., p. 297)

In considering the comments received, DOE finds the proposed amendments to the definition cause more confusion than the existing definition, therefore, DOE is not amending the definition of coil circuitry at this time.

III. Summary of Other Additions, Changes, and Corrections to the Department of Energy Residential Central Air Conditioner and Heat Pump Test Procedure

The following discussion summarizes revisions that were proposed in the July 2006 proposed rule and received no substantive comments.

Small-duct, high-velocity (SDHV) systems. Today's final rule adopts the following five changes that apply exclusively to small-duct, high-velocity (SDHV) systems:

—The minimum external-static-pressure levels that must be equaled or exceeded during the first test on any SDHV system will be 1.0 inches of water column higher than the minimum that is required of non-SDHV units. For example, for equipment having rated cooling capacities from 29,000 to 42,500 Btu/h, the minimum external static pressure is 1.15 inches of water column for SDHV systems, compared to 0.15 inches of water column for conventional blower-coil systems. This change is found in section 3.1.4.1.1 of Appendix M.

—All balance dampers or restrictor devices on or inside the unit must be set fully open or on the lowest restriction setting. This change is found in section 2.2 of Appendix M.

—The size of the duct connected to the outlet of the indoor unit must not exceed prescribed limits. This change is found in section 2.4.1 of Appendix M.

—When a closed-loop, air-enthalpy test apparatus is used on the indoor side, the test laboratory must limit the airflow resistance on the inlet-side of the indoor blower-coil to a maximum value of 0.1 inches of water column. The balance of the airflow resistance must be imposed on the outlet-side of the indoor blower. This change is found in section 3.1.4.1.1 of Appendix M.

—The test setup must include an adjustable air damper that is positioned immediately upstream of the airflow measuring apparatus that limits the differential pressure between the inside of the duct and the surrounding ambient to 0.5 inches of water column or less. If the particular test setup permits, the outlet air damper box used for cyclic tests can double as the adjustable air damper. This change is found in section 2.5.4.3 of Appendix M.

Optional high-capacity cyclic-degradation coefficient (C_D). Today's final rule reinstates the optional high-capacity cyclic-degradation coefficient (C_D) testing for two-capacity units that lock out low-capacity operation at outdoor temperatures where the unit is otherwise projected to modulate between low and high capacities/compressor stages. In lieu of testing, the default value for the high-capacity C_D will be the value of the low-capacity C_D. The specific change is reflected in sections 3.2.3, 3.4, 3.5, 3.5.3, 3.6.3, 3.8, 3.8.1, 4.1.3.3, and 4.2.3.3 of Appendix M.

Two-capacity heat pump default equations. Instead of conducting the laboratory test, default equations are now provided to approximate the performance of a two-capacity heat pump operating at low capacity and 35 °F outdoor temperature. The default equations appear in section 3.6.3 of Appendix M.

Duct loss correction. Except as noted below, DOE adopts the practice of applying a duct loss correction to the cooling and heating capacities determined using the indoor air enthalpy method. The losses occur within the section of insulated duct that extends between the outlet of the indoor unit and the test facility's outlet temperature grid. The correction, however, does not apply to the two indoor capacities used for calculating a cyclic-degradation coefficient, C_D. The change affects sections 3.3, 3.4, 3.7, 3.9.1, and 3.11 of Appendix M and is implemented by referencing sections 7.3.3.3 and 7.3.4.3 of ASHRAE Standard 37–2005 for cooling and heating tests, respectively.

Air volume. DOE adopts the definition of ''standard air'' as given in ASHRAE Standard 37–2005. This change affects section 1.37 of Appendix M and causes standard air volume rates to be expressed in terms of dry air, not moist air. DOE replaces the proper names containing the words ''Certified Air Volume Rate'' with ''Full-load Air Volume Rate.'' The change will eliminate confusion over whether the air volume rates specified in the test procedure are certified values, which they are not. This change appears in numerous places within the DOE test procedure, mostly in section 3 and

Tables 3 to 6 and Tables 9 to 12 of Appendix M.

ARMs. DOE adopts revised language for 10 CFR 430.24(m)(6) that describes the specific information the manufacturer must include in its submittal when requesting DOE's approval of the manufacturer's ARM. The revision expands the options regarding the data used to evaluate and verify the ARM and provides a compliance path for manufacturers who offer indoor units from only one coil family.

Definitions. DOE incorporates the definition for ''private labelers'' from EPCA, 42 U.S.C. 6291(15) into 10 CFR 430.2. Definitions for the terms ''indoor unit,'' ''outdoor unit,'' and ''ARM/simulation adjustment factor'' have also been added. Under 10 CFR 430.24(m)(5), DOE adopts revised language to specify that the requirements also apply to private labelers, and not just to manufacturers. For example, private labelers, like manufacturers, are responsible for ensuring that reported ratings for untested split-system combinations are based on a DOE-approved ARM.

October 2005 final rule. In addition, DOE is correcting two errors that were mistakenly introduced in the test procedure final rule published on October 11, 2005. 70 FR 59122. The October 2005 final rule incorrectly specifies the outdoor test conditions used for the optional low-capacity heating-mode cyclic test for two-capacity heat pumps. The temperatures for this test are incorrectly specified in the October 2005 final rule as 62 °F db/56.5°F wb. These temperatures should have remained as they were, with the values 47°F db/43°F wb. This error was unfortunately not discovered until after the final rule became effective on April 10, 2006. DOE has been informed that several new models of two-capacity heat pumps have been rated for HSPF based on conducting the low-capacity heating mode cyclic test at 62 °F db/56.5 °F wb. In implementing the test condition correction, DOE will not require that these affected models of two-capacity heat pumps be retested and rerated since the difference in energy efficiency is very slight, (i.e., tenths of HSPF). This correction appears in section 3.6.3b and Table 11 of Appendix M.

The second correction affects two equations used for calculating the HSPF of a variable-speed heat pump. Within section 4.2.4 of Appendix M of the final rule published on October 11, 2005, the terms N_Q and N_E are incorrectly positioned within the equations for M_Q and M_E, respectively. M_Q and M_E correspond to the slopes of the capacity and power curves when the heat pump is operated at the intermediate compressor speed, k = v. These intermediate speed slopes are derived from the slopes of the minimum and maximum speed curves, weighting each accordingly. The terms N_Q and N_E are the weighting factors for the maximum speed slopes.

In the October 2005 final rule, section 4.2.4 of Appendix M, the equations for M_Q and M_E each consist of the sum of two expressions in square brackets. In the right-hand bracketed expression of both equations, the divisor line is too long. It should not extend under N_Q in the equation for M_Q, nor should it extend under N_E in the equation for M_E. The divisor line is being shortened so that the equation returns to its format established in the 1988 revision of the test procedure. (53 FR 8304, March 14, 1988). The same misprint did not occur within the comparable cooling mode equations.

IV. Effect of Test Procedure Revisions on Compliance With Standards

In amending a test procedure, section 323(e) of EPCA directs DOE to determine to what extent, if any, the test procedure would alter the measured energy efficiency of the covered product and if the amended test procedure alters the measured efficiency, the Secretary is to amend the applicable energy conservation standard to the extent the amended test procedure changes the energy efficiency of products that minimally comply with the existing standard. (42 U.S.C. 6293(e)) In recognition of this requirement, the July 2006 proposed rule requested comments on whether any of the proposed changes would affect the measures of energy efficiency, and, if so, to what extent, when tested under the current test procedure. DOE received no comments in response. The issue was also raised at the public hearing, and DOE again received no comments that any models would fail to meet the standard when tested using the new test procedure. Since DOE did not receive comments on this issue, and based on the discussion below, DOE concludes that the amendments to the central air conditioner and central air conditioning test procedures adopted in today's final rule do not change the measure of energy efficiency of central air conditioners and central air conditioning heat pumps that minimally comply with the existing standard. Therefore, amendments to the existing energy efficiency standard are not required.

Some revisions in today's final rule are expected to slightly change the ratings of two-capacity systems. Since two-capacity systems are inherently more energy efficient, DOE concludes that these amendments would only affect higher efficiency systems and, therefore, not require DOE to amend its energy conservation standards.

The change to allow the use of default equations instead of conducting a low-capacity Frost Accumulation Test will negatively impact the measured HSPF. DOE estimates that the HSPF could be as much as 0.3 point lower if the default equations are used to obtain the value corresponding to climate Region IV and the minimum design-heating requirement instead of testing. This change will not affect the HSPF of a currently rated heat pump because use of the default equations is optional and DOE understands manufacturers test products instead of using the default value and, therefore, there is no change as a result of today's revisions.

Changing the maximum duration of all Frost Accumulation Tests from 12 hours to 6 hours is expected to only affect the average space heating capacity and power at 35 °F by causing a minimal, systematic increase in the derived HSPF for the rare case where the heat pump remains completely frosted beyond 6 hours. DOE believes such a situation is extremely unlikely, especially for tests at full-load.

DOE does not expect that adopting the practice of applying a duct loss correction to the cooling and heating capacities determined using the indoor air enthalpy method to cause an increase in SEER or HSPF. This is because the test procedure is simply catching up with current practice.

Making the definition of ''standard air'' consistent with the definition in ASHRAE Standard 37–2005 will have no effect on the SEER and HSPF as calculated using the October 2005 final rule. 70 FR 59122 (October 11, 2005).

Finally, changing the one steady-state, low-capacity cooling-mode test condition from 95 °F to 67 °F for two-capacity units is projected to change the calculated SEER very minimally—within ± 0.1 SEER point—in most cases. However, the reduction in SEER could be very considerable if the power consumption during the 95 °F test at low capacity is increased in an effort to obtain lower estimates, through extrapolation, of the power consumption for low-capacity at temperatures less than 82 °F. In general, the impact of the change will be measurable if the unit's electrical power draw increases atypically at higher outdoor temperatures when operating at low capacity. However, two-capacity compressors are inherently more energy

efficient and are not used in minimally compliant units, and, therefore, DOE concludes that this amendment to the test procedure will not change the energy efficiency of marginally compliant units.

V. Procedural Requirements

A. Review Under Executive Order 12866

Today's regulatory action is not a ''significant regulatory action'' under section 3(f) of Executive Order 12866, Regulatory Planning and Review, 58 FR 51735 (October 4, 1993). Accordingly, this action was not subject to review under the Executive Order by the Office of Information and Regulatory Affairs in the Office of Management and Budget.

B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires preparation of an initial regulatory flexibility analysis for any rule that by law must be proposed for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 13272, Proper Consideration of Small Entities in Agency Rulemaking, 67 FR 53461 (August 16, 2002), DOE published procedures and policies on February 19, 2003, to ensure that the potential impacts of its rules on small entities are properly considered during the rulemaking process. (68 FR 7990) The DOE procedures and policies are available on the Office of General Counsel's Web site: *http://www.gc.doe.gov*.

DOE reviewed today's final rule under the provisions of the Regulatory Flexibility Act and the procedures and policies published on February 19, 2003. 68 FR 7990. DOE certified in the July 20, 2006, proposed rule that the proposed rule would not impose a significant economic impact on a substantial number of small entities. (66 FR 6780) DOE received no comments on this issue, and after considering the potential small entity impact of this final rule, DOE affirms the certification that this rule will not have a significant economic impact on a substantial number of small entities.

C. Review Under the Paperwork Reduction Act of 1995

This rulemaking imposes no new information or record keeping requirements. Accordingly, Office of Management and Budget (OMB) clearance is not required under the Paperwork Reduction Act. (44 U.S.C. 3501 *et seq.*)

D. Review Under the National Environmental Policy Act of 1969

DOE has determined that this rule falls into a class of actions that are categorically excluded from review under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*) and DOE's implementing regulations at 10 CFR part 1021. This rule amends an existing rule without changing its environmental effect, and, therefore, is covered by the Categorical Exclusion in paragraph A5 to subpart D, 10 CFR part 1021. Accordingly, neither an environmental assessment nor an environmental impact statement is required.

E. Review Under Executive Order 13132

Executive Order 13132, ''Federalism,'' 64 FR 43255 (August 4, 1999) imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have federalism implications. The Executive Order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and to carefully assess the necessity for such actions. The Executive Order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations. (65 FR 13735) DOE examined this final rule and determined that it does not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Executive Order 13132 requires no further action.

F. Review Under Executive Order 12988

Regarding the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, ''Civil Justice Reform'' 61 FR 4729 (February 7, 1996), imposes on Federal agencies the general duty to adhere to the following requirements: (1) Eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; and (3) provide a clear legal standard for affected conduct rather than a general standard and promote simplification and burden reduction. Section 3(b) of Executive Order 12988 specifically requires that Executive agencies make every reasonable effort to ensure that the regulation: (1) Clearly specifies the preemptive effect, if any; (2) clearly specifies any effect on existing Federal law or regulation; (3) provides a clear legal standard for affected conduct while promoting simplification and burden reduction; (4) specifies the retroactive effect, if any; (5) adequately defines key terms; and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of Executive Order 12988 requires Executive agencies to review regulations in light of applicable standards in section 3(a) and section 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that, to the extent permitted by law, this rule meets the relevant standards of Executive Order 12988.

G. Review Under the Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) (UMRA) requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and Tribal governments and the private sector. For a proposed regulatory action that may result in the expenditure by State, local and Tribal governments, in the aggregate, or by the private sector of $100 million or more (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish estimates of the resulting costs, benefits, and other effects on the national economy. (2 U.S.C. 1532(a),(b)) UMRA also requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and Tribal governments on a proposed ''significant intergovernmental mandate,'' and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect small governments. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA (62 FR 12820) (also available at *http://www.gc.doe.gov*). The rule published today contains neither an intergovernmental mandate, nor a mandate that may result in an expenditure of $100 million or more in any year, so these requirements do not apply.

H. Review Under the Treasury and General Government Appropriations Act, 1999

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. 105–277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. This rule would not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

I. Review Under Executive Order 12630

DOE has determined, under Executive Order 12630, ''Governmental Actions and Interference with Constitutionally Protected Property Rights,'' 53 FR 8859 (March 18, 1988), that this regulation would not result in any takings which might require compensation under the Fifth Amendment to the United States Constitution.

J. Review Under the Treasury and General Government Appropriations Act, 2001

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516 note) requires agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by OMB. OMB's guidelines were published at 67 FR 8452 (February 22, 2002), and DOE's guidelines were published at 67 FR 62446 (October 7, 2002). DOE has reviewed today's notice under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

K. Review Under Executive Order 13211

Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use,'' 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to OIRA, a Statement of Energy Effects for any proposed significant energy action. A ''significant energy action'' is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that: (1) Is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy, or (3) is designated by the Administrator of OIRA as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use. Today's regulatory action would not have a significant adverse effect on the supply, distribution, or use of energy and, therefore, is not a significant energy action. Accordingly, DOE has not prepared a Statement of Energy Effects.

L. Review Under Section 32 of the Federal Energy Administration Act of 1974

Under section 301 of the Department of Energy Organization Act (Pub. L. 95–91), the Department of Energy must comply with section 32 of the Federal Energy Administration Act of 1974 (FEAA), as amended by the Federal Energy Administration Authorization Act of 1977. (15 U.S.C. 788) Section 32 provides in essence that, where a proposed rule contains or involves use of commercial standards, the notice of proposed rulemaking must inform the public of the use and background of such standards. This final rule updates references to the most recent versions of four commercial standards, as discussed in section II.F of this preamble.

The Department has evaluated these standards and is unable to conclude whether they fully comply with the requirements of section 32(b) of the FEAA, i.e., that they were developed in a manner which fully provides for public participation, comment and review. As required by section 32(c) of the FEAA, the Department has consulted with the Attorney General and the Chairman of the Federal Trade Commission concerning the impact of these four standards on competition, and neither recommended against incorporation of these standards.

M. Congressional Notification

As required by 5 U.S.C. 801, DOE will report to Congress on the promulgation of today's rule prior to its effective date. The report will state that it has been determined that the rule is not a ''major rule'' as defined by 5 U.S.C. 804(2).

VI. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this final rule.

List of Subjects in 10 CFR Part 430

Administrative practice and procedure, Energy conservation, Household appliances, Incorporation by reference.

Issued in Washington, DC, on September 27, 2007.

Alexander A. Karsner,

Assistant Secretary, Energy Efficiency and Renewable Energy.

For the reasons set forth in the preamble, Part 430 of Chapter II of Title 10, Code of Federal Regulations is amended as set forth below:

PART 430—ENERGY CONSERVATION PROGRAM FOR CONSUMER PRODUCTS

■ 1. The authority citation for part 430 continues to read as follows:

Authority: 42 U.S.C. 6291–6309; 28 U.S.C. 2461 note.

■ 2. Section 430.2 is amended in subpart A by adding definitions of ''ARM/simulation adjustment factor,'' ''indoor unit,'' ''outdoor unit,'' ''private labeler,'' and ''tested combination,'' in alphabetical order, to read as follows:

§ 430.2 Definitions.

* * * * *

ARM/simulation adjustment factor means a factor used as part of a DOE-approved alternative rating method (ARM) to improve the accuracy of the calculated ratings for untested split-system central air conditioners or heat pumps. The adjustment factor associated with each outdoor unit must be set such that it reduces the difference between the SEER (HSPF) determined using the ARM and a split-system combination tested in accordance with § 430.24(m)(1). The ARM/simulation adjustment factor is an integral part of the ARM and must be a DOE-approved element in accordance with 10 CFR 430.24(m)(4) to (m)(6).

* * * * *

Indoor unit means a component of a split-system central air conditioner or heat pump that is designed to transfer heat between the refrigerant and the indoor air, and which consists of an indoor coil, a cooling mode expansion device, and may include an air moving device.

* * * * *

Outdoor unit means a component of a split-system central air conditioner or heat pump that is designed to transfer heat between the refrigerant and the outdoor air, and which consists of an outdoor coil, compressor(s), an air moving device, and in addition for heat pumps, a heating mode expansion device, reversing valve, and defrost controls.

* * * * *

Private labeler means an owner of a brand or trademark on the label of a consumer product which bears a private

label. A consumer product bears a private label if:

(1) Such product (or its container) is labeled with the brand or trademark of a person other than a manufacturer of such product;

(2) The person with whose brand or trademark such product (or container) is labeled has authorized or caused such product to be so labeled; and

(3) The brand or trademark of a manufacturer of such product does not appear on such label.

* * * * *

Tested combination means a multi-split system with multiple indoor coils having the following features:

(1) The basic model of a system used as a tested combination shall consist of one outdoor unit, with one or more compressors, that is matched with between 2 and 5 indoor units; for multi-split systems, each of these indoor units shall be designed for individual operation.

(2) The indoor units shall—

(i) Represent the highest sales model family, or another indoor model family if the highest sales model family does not provide sufficient capacity (see ii);

(ii) Together, have a nominal capacity that is between 95% and 105% of the nominal capacity of the outdoor unit;

(iii) Not, individually, have a capacity that is greater than 50% of the nominal capacity of the outdoor unit;

(iv) Operate at fan speeds that are consistent with the manufacturer's specifications; and

(v) All be subject to the same minimum external static pressure requirement (i.e., 0 inches of water column for non-ducted, see Table 2 in Appendix M to Subpart B of this part for ducted indoor units) while being configurable to produce the same static pressure at the exit of each outlet plenum when manifolded as per section 2.4.1 of Appendix M.

* * * * *

§ 430.22 [Amended]

■ 3. Section 430.22 is amended as follows:

■ a. Paragraph (b)(5)2. is amended by removing ''23–1993'' and adding in its place ''23–2005.''

■ b. Paragraph (b)(5)3. is amended by removing ''37–1988'' and adding in its place ''37–2005.''

■ c. Paragraph (b)(5)8. is amended by removing ''116–1995'' and adding in its place ''116–1995 (RA 2005).''

■ d. Paragraph (b)(8) is amended by removing ''210/240–2003'' and adding in its place ''210/240–2006.''

■ 4. Section 430.23 is amended in subpart B by revising paragraph (m)(5) to read as follows:

§ 430.23 Test procedures for the measurement of energy and water consumption.

* * * * *

(m) * * *

(5) All measures of energy consumption must be determined by the test method as set forth in appendix M to this subpart; or by an alternative rating method set forth in § 430.24(m)(4) as approved by the Assistant Secretary for Energy Efficiency and Renewable Energy in accordance with § 430.24(m)(5).

* * * * *

■ 5. Section 430.24 is amended in subpart B by revising paragraph (m) to read as follows:

§ 430.24 Units to be tested.

* * * * *

(m)(1) For central air conditioners and heat pumps, each single-package system and each condensing unit (outdoor unit) of a split-system, when combined with a selected evaporator coil (indoor unit) or a set of selected indoor units, must have a sample of sufficient size tested in accordance with the applicable provisions of this subpart. The represented values for any model of single-package system, any model of a tested split-system combination, any model of a tested mini-split system combination, or any model of a tested multi-split system combination must be assigned such that —

(i) Any represented value of estimated annual operating cost, energy consumption or other measure of energy consumption of the central air conditioner or heat pump for which consumers would favor lower values must be no less than the higher of:

(A) The mean of the sample; or

(B) The upper 90-percent confidence limit of the true mean divided by 1.05;

(ii) Any represented value of the energy efficiency or other measure of energy consumption of the central air conditioner or heat pump for which consumers would favor higher values must be no greater than the lower of:

(A) The mean of the sample; or

(B) The lower 90-percent confidence limit of the true mean divided by 0.95;

(iii) For heat pumps, all units of the sample population must be tested in both the cooling and heating modes and the results used for determining the heat pump's certified SEER and HSPF ratings in accordance with paragraph (m)(1)(ii) of this section.

(2) For split-system air conditioners and heat pumps, the condenser-evaporator coil combination selected for tests pursuant to paragraph (m)(1) of this section shall include the evaporator coil that is likely to have the largest volume of retail sales with the particular model of condensing unit. For mini-split condensing units that are designed to always be installed with more than one indoor unit, a ''tested combination'' as defined in 10 CFR 430.2 shall be used for tests pursuant to paragraph (m)(1) of this section. For multi-split systems, each model of condensing unit shall be tested with two different sets of indoor units. For one set, a ''tested combination'' composed entirely of non-ducted indoor units shall be used. For the second set, a ''tested combination'' composed entirely of ducted indoor units shall be used. Components of similar design may be substituted without requiring additional testing if the represented measures of energy consumption continue to satisfy the applicable sampling provisions of paragraphs (m)(1)(i) and (m)(1)(ii) of this section. However, for any split-system air conditioner having a single-speed compressor, the condenser-evaporator coil combination selected for tests pursuant to paragraph (m)(1) of this section shall include the indoor *coil-only* unit that is likely to have the largest volume of retail sales with the particular model of outdoor unit. This *coil-only* requirement does not apply to split-system air conditioners that are only sold and installed with *blower-coil* indoor units, specifically mini-splits, multi-splits, and through-the-wall units. This coil-only requirement does not apply to any split-system heat pumps. For every other split-system combination that includes the same model of condensing unit but a different model of evaporator coil and for every other mini-split and multi-split system that includes the same model of condensing unit but a different set of evaporator coils, whether the evaporator coil(s) is manufactured by the same manufacturer or by a component manufacturer, either—

(i) A sample of sufficient size, comprised of production units or representing production units, must be tested as complete systems with the resulting ratings for the outdoor unit-indoor unit(s) combination obtained in accordance with paragraphs (m)(1)(i) and (m)(1)(ii) of this section; or

(ii) The representative values of the measures of energy efficiency must be assigned as follows,

(A) Using an alternative rating method (ARM) that has been approved by DOE in accordance with the provisions of paragraphs (m)(4) through (m)(6) of this section; or

(B) For multi-split systems composed entirely of non-ducted indoor units, set equal to the system tested in accordance

with paragraph (m)(1) of this section whose tested combination was entirely non-ducted indoor units;

(C) For multi-split systems composed entirely of ducted indoor units, set equal to the system tested in accordance with paragraph (m)(1) of this section whose tested combination was entirely ducted indoor units; and

(D) For multi-split systems having a mix of non-ducted and ducted indoor units, set equal to the mean of the values for the two systems — one having the tested combination of all non-ducted units and the second having the tested combination of all ducted indoor units — tested in accordance with paragraph (m)(1) of this section.

(3) Whenever the representative values of the measures of energy consumption, as determined by the provisions of paragraph (m)(2)(ii) of this section, do not agree within 5 percent of the representative values of the measures of energy consumption as determined by actual testing, the representative values determined by actual testing must be used to comply with section 323(c) of the Act or to comply with rules under section 324 of the Act.

(4) The basis of the ARM referred to in paragraph (m)(2)(ii) of this section must be a representation of the test data and calculations of a mechanical vapor-compression refrigeration cycle. The major components in the refrigeration cycle must be modeled as ''fits'' to manufacturer performance data or by graphical or tabular performance data. Heat transfer characteristics of coils may be modeled as a function of face area, number of rows, fins per inch, refrigerant circuitry, air-flow rate and entering-air enthalpy. Additional performance-related characteristics to be considered may include type of expansion device, refrigerant flow rate through the expansion device, power of the indoor fan and cyclic-degradation coefficient. Ratings for untested combinations must be derived from the ratings of a combination tested in accordance with paragraph (m)(1) of this section. The seasonal energy efficiency ratio (SEER) and/or heating seasonal performance factor (HSPF) ratings for an untested combination must be set equal to or less than the lower of the SEER and/or HSPF calculated using the applicable DOE-approved alternative rating method (ARM). If the method includes an ARM/simulation adjustment factor(s), determine the value(s) of the factors(s) that yield the best match between the SEER/HSPF determined using the ARM versus the SEER/HSPF determined from testing in accordance with paragraph (m)(1) of this section. Thereafter, apply the ARM using the derived adjustment factor(s) only when determining the ratings for untested combinations having the same outdoor unit.

(5) Manufacturers or private labelers who elect to use an ARM for determining measures of energy consumption under paragraphs (m)(2)(ii)(A) and (m)(4) of this section must submit a request for DOE to review the ARM. Send the request to the Assistant Secretary of Energy Efficiency and Renewable Energy, 1000 Independence Avenue, SW., Washington, DC 20585–0121. Approval must be received from the Assistant Secretary to use the ARM before the ARM may be used for rating split-system central air conditioners and heat pumps. If a manufacturer has a DOE-approved ARM for products also distributed in commerce by a private labeler, the ARM may also be used by the private labeler for rating these products. Once an ARM is approved, DOE may contact a manufacturer to learn if their ARM has been modified in any way and to verify that the ARM is being applied as approved. DOE will give follow-up priority to individual combinations having questionably high ratings (e.g., a coil-only system having a rating that exceeds the rating of a coil-only highest sales volume combination by more than 6 percent).

(6) Each request to DOE for approval of an alternative rating method must include:

(i) The name, mailing address, telephone number, and e-mail address of the official representing the manufacturer.

(ii) Complete documentation of the alternative rating method to allow DOE to evaluate its technical adequacy. The documentation must include a description of the methodology, state any underlying assumptions, and explain any correlations. The documentation should address how the method accounts for the cyclic-degradation coefficient, the type of expansion device, and, if applicable, the indoor fan-off delay. The requestor must submit any computer programs—including spreadsheets—having less than 200 executable lines that implement the ARM. Longer computer programs must be identified and sufficiently explained, as specified above, but their inclusion in the initial submittal package is optional. Applicability or limitations of the ARM (e.g., only covers single-speed units when operating in the cooling mode, covers units with rated capacities of 3 tons or less, not applicable to the manufacturer's product line of non-ducted systems, etc.) must be stated in the documentation.

(iii) Complete test data from laboratory tests on four mixed (i.e., non-highest-sales-volume combination) systems per each ARM.

(A) The four mixed systems must include four different indoor units and at least two different outdoor units. A particular model of outdoor unit may be tested with up to two of the four indoor units. The four systems must include two low-capacity mixed systems and two high-capacity mixed systems. The low-capacity mixed systems may have any capacity. The rated capacity of each high-capacity mixed system must be at least a factor of two higher than its counterpart low-capacity mixed system. The four mixed systems must meet the applicable energy conservation standard in § 430.32(c) in effect at the time of the rating.

(B) The four indoor units must come from at least two different coil families, with a maximum of two indoor units coming from the same coil family. Data for two indoor units from the same coil family, if submitted, must come from testing with one of the ''low-capacity mixed systems'' and one of the ''high capacity mixed systems.'' A mixed system indoor coil may come from the same coil family as the highest-sales-volume-combination indoor unit (i.e., the ''matched'' indoor unit) for the particular outdoor unit. Data on mixed systems where the indoor unit is now obsolete will be accepted towards the ARM-validation submittal requirement if it is from the same coil family as other indoor units still in production.

(C) The first two sentences of paragraph (m)(6)(iii)(B) of this section do not apply if the manufacturer offers indoor units from only one coil family. In this case only, all four indoor coils must be selected from this one coil family. If approved, the ARM will be specifically limited to applications for this one coil family.

(iv) All product information on each mixed system indoor unit, each matched system indoor unit, and each outdoor unit needed to implement the proposed ARM. The calculated ratings for the four mixed systems, as determined using the proposed ARM, must be provided along with any other related information that will aid the verification process.

(v) If request for approval is for an updated ARM, manufacturers must identify modifications made to the ARM since the last submittal, including any ARM/simulation adjustment factor(s) added since the ARM was last approved by DOE.

(7) Manufacturers that elect to use an alternative rating method for determining measures of energy consumption under paragraphs (m)(2)(ii)(A) and (m)(4) of this section must either subject a sample of their units to independent testing on a regular basis, e.g., through a voluntary certification program, or have the representations reviewed and certified by an independent state-registered professional engineer who is not an employee of the manufacturer. The registered professional engineer is to certify that the results of the alternative rating procedure accurately represent the energy consumption of the unit(s). The manufacturer is to keep the registered professional engineer's certifications on file for review by DOE for as long as said combination is made available for sale by the manufacturer. Any proposed change to the alternative rating method must be approved by DOE prior to its use for rating.

(8) Manufacturers who choose to use computer simulation or engineering analysis for determining measures of energy consumption under paragraphs (m)(2)(ii)(A) and (m)(4) through (m)(7) of this section must permit representatives of the Department of Energy to inspect for verification purposes the simulation method(s) and computer program(s) used. This inspection may include conducting simulations to predict the performance of particular outdoor unit " indoor unit combinations specified by DOE, analysis of previous simulations conducted by the manufacturer, or both.

* * * * *

Appendix M—[Amended]

■ 6. Appendix M to subpart B of part 430 is amended:

■ a. In section 1. Definitions:

■ 1. Section 1.3 is amended by removing "210/240–2003" and adding in its place "210/240–2006"; and by removing "2003" and adding in its place "2006."

■ 2. Section 1.5 is amended by removing "23–93" and adding in its place "23–2005"; and by removing "1993" and adding in its place "2005."

■ 3. Section 1.6 is amended by removing "37–88" and adding in its place "37–2005"; and by removing "1988" and adding in its place "2005."

■ 4. Section 1.12 is amended by adding "RA(05)" after "116–95"; and adding "and reaffirmed in 2005" after "1995."

■ 5. Section 1.35 is amended by removing "certified" and adding in its place "full-load."

■ 6. Section 1.37 is revised to read as set forth below.

■ b. In section 2, Testing Conditions:

■ 1. Sections 2.1a, 2.2a, 2.2b, 2.2.3, 2.2.5, 2.4.1, and 2.4.2 are revised to read as set forth below.

■ 2. Section 2.3.1b is amended by removing "Certified" and adding in its place "Full-load."

■ 3. Section 2.5.3 is amended by revising the first sentence to read as set forth below.

■ 4. New section 2.5.4.3 is added to read as set forth below.

■ 5. Section 2.6a is amended by adding in the first sentence "(RA05)" after "116–95."

■ 6. Section 2.6b is amended in the second sentence, and in the last sentence, by removing "37–88" and adding in its place "37–2005;" and by removing "ARI Standard 210/240–2003" and adding in its place "ARI Standard 210/240–2006" in the second sentence.

■ 7. Section 2.7 is amended by removing "ARI Standard 210/240–2003" and adding in its place "ARI Standard 210/240–2006."

■ 8. Section 2.10.2 is amended in the third and fourth sentences, by removing "37–88" and adding in its place "37–2005."

■ 9. Section 2.10.3 is amended in the second sentence, by removing "7.6.2," and adding in its place "7.5.2," and by removing "37–88" and adding in its place "37–2005" in the second and third sentences.

■ 10. Section 2.11a is amended in the first sentence, by removing "37–88" and adding in its place "37–2005."

■ 11. Section 2.13 is amended in the second sentence, by removing "37–88" and adding in its place "37–2005."

■ c. In section 3, Testing Procedures:

■ 1. Section 3.1.1 is amended by revising the seventh sentence to read as set forth below.

■ 2. Section 3.1.3 is amended by removing "ARI Standard 210/240–2003" and adding in its place "ARI Standard 210/240–2006."

■ 3. Section 3.1.4.1 is amended by removing "Certified" and adding in its place "Full-load."

■ 4. Section 3.1.4.1.1, from its title to the end of paragraph a., and Table 2, are revised to read as set forth below.

■ 4a. Section 3.1.4.1.1b is amended by revising the first sentence to read as set forth below.

■ 5. Amend sections 3.1.4.1.1b and 3.1.4.1.1c by removing "Certified" and adding in its place "Full-load."

■ 6. Section 3.1.4.1.2 is amended by removing "Certified" and adding in its place "Full-load" in two locations.

■ 7. Section 3.1.4.2a is amended by revising the "Cooling Minimum Air Vol. Rate" equation to read as set forth below.

■ 8. Section 3.1.4.2b is amended by revising the equation for minimum external static pressure to read as set forth below.

■ 9. Section 3.1.4.2c is amended by removing "Certified" and adding in its place "Full-load."

■ 10. Section 3.1.4.3a is amended by revising the "Cooling Intermediate Air Volume Rate" equation to read as set forth below.

■ 11. Section 3.1.4.3b is amended by revising the "E_v Test ΔP_{st}" equation to read as set forth below.

■ 12. Section 3.1.4.4 is amended by removing "Certified" and adding in its place "Full-load."

■ 13. Section 3.1.4.4.1 is amended by removing "Certified" and adding in its place "Full-load" in three locations.

■ 14. Section 3.1.4.4.2 is amended by removing "Certified" and adding in its place "Full-load" and revising the "Heating Certified Air Volume Rate" equation to read as set forth below.

■ 14a. Section 3.1.4.4.2a is amended by removing "Certified" and adding in its place "Full-load."

■ 15. Section 3.1.4.4.2b is amended by removing "Certified" and adding in its place "Full-load" in three locations, and revising the "Heating Certified ΔP_{st}" equation to read as set forth below.

■ 16. Section 3.1.4.4.2c is amended by removing "Certified" and adding in its place "Full-load" in three locations.

■ 17. Sections 3.1.4.4.3 and 3.1.4.4.3a are revised to read as set forth below.

■ 17a. Sections 3.1.4.4.3b is amended by revising the first sentence to read as set forth below.

■ 18. Amend sections 3.1.4.4.3b, 3.1.4.4.3c and 3.1.4.4.4 by removing "Certified" and adding in its place "Full-load."

■ 19. Section 3.1.4.5a is amended by revising the "Heating Minimum Air Volume Rate" equation to read as set forth below.

■ 20. Section 3.1.4.5b is amended by revising the "$H0_1$, $H1_1$, $H2_1$, $H3_1$, Test ΔP_{st}" equation to read as set forth below.

■ 21. Section 3.1.4.5d is amended by removing Certified and adding in its place Full-load in two locations.

■ 22. Section 3.1.4.6a is amended by revising the "Heating Intermediate Air Volume Rate" equation to read as set forth below.

■ 23. Section 3.1.4.6b is amended by revising the "$H2_v$ Test ΔP_{st}" equation to read as set forth below.

■ 24. Section 3.1.4.7 is amended by revising the "Heating Nominal Air Volume Rate" equation and the "$H1_N$ Test ΔP_{st}" equation to read as set forth below.

■ 25. Section 3.1.5 is amended in the first sentence by removing "37–88" and adding in its place "37–2005."

■ 26. Section 3.1.6 is amended in the first and second sentences, by removing ''7.8.3.1 and 7.8.3.2'' and adding in its place ''7.7.2.1 and 7.7.2.2,'' and in the first sentence, by removing ''37–88'' and adding in its place ''37–2005,'' and by adding a new sentence after the second sentence, to read as set forth below.
■ 27. Section 3.1.7 is amended by removing ''certified'' and adding in its place ''Full-load'' in four locations.
■ 28. Section 3.1.9 is amended by removing ''Certified'' and adding in its place ''Full-load.''
■ 28a. Section 3.2.1 is amended by revising the fourth sentence to read as set forth below.
■ 29. Table 3 to Section 3.2.1 is amended by removing ''certified'' and adding in its place ''full-load'' in three locations in the last column.
■ 29a. Section 3.2.2.1 is amended by revising the third sentence to read as set forth below.
■ 30. Table 4 to Section 3.2.2.1 is amended by removing ''certified'' and adding in its place ''full-load'' in two locations in the last column.
■ 31. Section 3.2.2.2 is amended by removing ''Certified'' and adding in its place ''Full-load.''
■ 32. Sections 3.2.3a is revised as set forth below.
■ 33. Section 3.2.3b is amended by removing ''Certified'' and adding in its place ''Full-load.''
■ 34. Section 3.2.3d is revised as set forth below.
■ 35. Table 5 to section 3.2.3 is revised as set forth below.
■ 36. Section 3.2.4.a is amended by revising the third sentence to read as set forth below.
■ 37. Section 3.2.4b is amended by removing ''Certified'' and adding in its place ''Full-load.''
■ 38. Table 6 to section 3.2.4 is revised as set forth below.
■ 39. Section 3.2.4 is amended by adding a new paragraph (c) as set forth below.
■ 40. Section 3.3b is amended in both the first and second sentences, by removing ''Table 5,'' and adding in its place ''Table 3,'' and in the first sentence by removing ''37–88'' and adding in its place ''37–2005.''
■ 41. Section 3.3c is amended in the first sentence by removing ''section 7.3.3.1 of ASHRAE Standard 37–88,'' and adding in its place ''sections 7.3.3.1 and 7.3.3.3 of ASHRAE Standard 37–2005.''
■ 42. The titles of sections 3.4 and 3.5 are revised as set forth below.
■ 43. Section 3.4b is revised to read as set forth below.
■ 44. Section 3.5.3 is amended by revising the introductory text to read as set forth below.
■ 45. Section 3.6.1 is amended by revising the second, third, and fourth sentences to read as set forth below.
■ 46. Table 9 to Section 3.6.1 is amended by removing ''Certified'' and adding in its place ''Full-load'' in three locations.
■ 47. Section 3.6.2 is amended by revising the introductory text to read as set forth below.
■ 48. Table 10 to Section 3.6.2 is amended by removing ''Certified'' and adding in its place ''Full-load'' in three locations.
■ 49. Section 3.6.3 is revised as set forth below.
■ 50. Table 11 to section 3.6.3 is revised as set forth below.
■ 51. Section 3.6.4 is amended by revising the third, fourth, and fifth sentences of paragraph a. and adding a new paragraph c. to read as set forth below.
■ 52. Table 12 to section 3.6.4 is revised to read as set forth below.
■ 53. Section 3.7a is amended in the fifth sentence by removing ''Table 5 of ASHRAE Standard 37–88'' and adding in its place ''Table 3 of ASHRAE Standard 37–2005,'' and in the sixth sentence, by removing ''Table 5'' and adding in its place ''Table 3.''
■ 54. Section 3.7b is amended by revising the first sentence to read as set forth below.
■ 55. The title of section 3.8 is revised to read as set forth below.
■ 56. The introductory text and the first equation of section 3.8.1 are revised to read as set forth below.
■ 57. Section 3.9c is revised to read as set forth below.
■ 58. Section 3.9f is amended by revising the fifth sentence and adding a parenthetical immediately following it to read as set forth below.
■ 59. Section 3.9.1a is amended by adding a new sentence at the end of the section directly before section 3.9.1.b to read as set forth below.
■ 60. Section 3.9.2b is amended by replacing ''Certified'' with ''Full-load.''
■ 61. Section 3.11 is amended by removing the introductory text following the paragraph heading, which is republished below.
■ 62. Section 3.11.1.3b is revised to read as set forth below.
■ 63. Section 3.11.2a is amended by revising the seventh sentence to read as set forth below.
■ 64. Section 3.11.2b is revised to read as set forth below.
■ 65. Section 3.11.3 is revised to read as set forth below.
■ d. In section 4, CALCULATIONS OF SEASONAL PERFORMANCE DESCRIPTORS:
■ 1. Sections 4.1.2.1a and 4.1.2.1d are amended by removing ''Certified'' and adding in its place ''Full-load.''
■ 2. Section 4.1.3 is amended by revising the introductory text, equations 4.1.3–1 and 4.1.3–2, the paragraph preceding equation 4.1.3–3, and equation 4.1.3–3 to read as set forth below.
■ 3. Section 4.1.3.3 is amended by revising the equation for PLF_j and the text following the equation to read as set forth below.
■ 4. Section 4.1.4 is amended by revising everything except for the equations for calculating M_Q and M_E, to read as set forth below.
■ 5. Section 4.1.4.1 is amended by revising the second sentence after the explanation of terms in the equations (''Use Equations 4.1.3–1 and 4.1.3–2, respectively, to evaluate $\dot{Q}_c^{k=1}(T_j)$'' and $\dot{E}_c^{k=1}(T_j)$ to read as set forth below.
■ 6. Section 4.1.4.2 is amended by revising the equation numbers referenced in the descriptions of the quantities T_1 and T_v, revising the equation numbers referred to in the equations for $EER^{k=1}(T_1)$ and $EER^{k=v}(T_v)$, and adding text at the end of the section to read as set forth below.
■ 7. Section 4.2.3.3 is amended by revising the equation for PLF_j and the text following the equation to read as set forth below.
■ 8. The Section 4.2.4 equations for M_Q and M_E are revised to read as set forth below.
■ 9. Section 4.2.4.2 is amended by adding text at the end of the section to read as set forth below.

The additions and revisions read as follows:

Appendix M to Subpart B of Part 430—Uniform Test Method for Measuring the Energy Consumption of Central Air Conditioners and Heat Pumps

* * * * *

1. Definitions

* * * * *

1.37 Standard air means dry air having a mass density of 0.075 lb/ft^3.

* * * * *

2. Testing Conditions

* * * * *

2.1 Test room requirements. a. Test using two side-by-side rooms, an indoor test room and an outdoor test room. For multiple-split air conditioners and heat pumps (see Definition 1.30), however, use as many available indoor test rooms as needed to accommodate the total number of indoor units. These rooms must comply with the requirements specified in sections 8.1.2 and 8.1.3 of ASHRAE Standard 37–2005

(incorporated by reference, see § 430.22).

* * * * *

2.2 Test unit installation requirements. a. Install the unit according to section 8.2 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22). With respect to interconnecting tubing used when testing split systems, however, follow the requirements given in section 6.1.3.5 of ARI Standard 210/240–2006 (incorporated by reference, see § 430.22). When testing triple-split systems (see Definition 1.44), use the tubing length specified in section 6.1.3.5 of ARI Standard 210/240–2006 (incorporated by reference, see § 430.22) to connect the outdoor coil, indoor compressor section, and indoor coil while still meeting the requirement of exposing 10 feet of the tubing to outside conditions. When testing split systems having multiple indoor coils, connect each indoor fan-coil to the outdoor unit using: (a) 25 feet of tubing, or (b) tubing furnished by the manufacturer, whichever is longer. If they are needed to make a secondary measurement of capacity, install refrigerant pressure measuring instruments as described in section 8.2.5 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22). Refer to section 2.10 of this Appendix to learn which secondary methods require refrigerant pressure measurements. At a minimum, insulate the low-pressure line(s) of a split-system with insulation having an inside diameter that matches the refrigerant tubing and a nominal thickness of 0.5 inch.

b. For units designed for both horizontal and vertical installation or for both up-flow and down-flow vertical installations, the manufacturer must specify the orientation used for testing. Conduct testing with the following installed:

(1) the most restrictive filter(s);

(2) supplementary heating coils; and

(3) other equipment specified as part of the unit, including all hardware used by a heat comfort controller if so equipped (see Definition 1.28). For small-duct, high-velocity systems, configure all balance dampers or restrictor devices on or inside the unit to fully open or lowest restriction.

* * * * *

2.2.3 Special requirements for multi-split air conditioners and heat pumps, and systems composed of multiple mini-split units (outdoor units located side-by-side) that would normally operate using two or more indoor thermostats. For any test where the system is operated at part load (i.e., one or more compressors ''off'', operating at the intermediate or minimum compressor speed, or at low compressor capacity), the manufacturer shall designate the particular indoor coils that are turned off during the test. For variable-speed systems, the manufacturer must designate at least one indoor unit that is turned off for all tests conducted at minimum compressor speed. For all other part-load tests, the manufacturer shall choose to turn off zero, one, two, or more indoor units. The chosen configuration shall remain unchanged for all tests conducted at the same compressor speed/capacity. For any indoor coil that is turned off during a test, take steps to cease forced airflow through this indoor coil and block its outlet duct. Because these types of systems will have more than one indoor fan and possibly multiple outdoor fans and compressor systems, references in this test procedure to a single indoor fan, outdoor fan, and compressor means all indoor fans, all outdoor fans, and all compressor systems that are turned on during the test.

* * * * *

2.2.5 Additional refrigerant charging requirements. Charging according to the ''manufacturer's published instructions,'' as stated in section 8.2 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22), means the manufacturer's installation instructions that come packaged with the unit. * * *

* * * * *

2.4.1 Outlet plenum for the indoor unit. a. Attach a plenum to the outlet of the indoor coil. (**NOTE:** for some packaged systems, the indoor coil may be located in the outdoor test room.)

b. For systems having multiple indoor coils, attach a plenum to each indoor coil outlet. Connect two or more outlet plenums to a single common duct so that each indoor coil ultimately connects to an airflow measuring apparatus (section 2.6). If using more than one indoor test room, do likewise, creating one or more common ducts within each test room that contains multiple indoor coils. At the plane where each plenum enters a common duct, install an adjustable airflow damper and use it to equalize the static pressure in each plenum. Each outlet air temperature grid (section 2.5.4) and airflow measuring apparatus are located downstream of the inlet(s) to the common duct.

c. For small-duct, high-velocity systems, install an outlet plenum that has a diameter that is equal to or less than the value listed below. The limit depends only on the cooling Full-Load Air Volume Rate (see section 3.1.4.1.1) and is effective regardless of the flange dimensions on the outlet of the unit (or an air supply plenum adapter accessory, if installed in accordance with the manufacturer's installation instructions).

d. Add a static pressure tap to each face of the (each) outlet plenum, if rectangular, or at four evenly distributed locations along the circumference of an oval or round plenum. Create a manifold that connects the four static pressure taps. Figure 1 shows two of the three options allowed for the manifold configuration; the third option is the broken-ring, four-to-one manifold configuration that is shown in Figure 7a of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22). See Figures 7a, 7b, 7c, and 8 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22) for the cross-sectional dimensions and minimum length of the (each) plenum and the locations for adding the static pressure taps for units tested with and without an indoor fan installed.

Cooling full-load air volume rate (scfm)	Maximum diameter* of outlet plenum (inches)
≤500	6
501 to 700	7
701 to 900	8
901 to 1100	9
1101 to 1400	10
1401 to 1750	11

*If the outlet plenum is rectangular, calculate its equivalent diameter using *(4A)/P,* where *A* is the area and *P* is the perimeter of the rectangular plenum, and compare it to the listed maximum diameter.

2.4.2 Inlet plenum for the indoor unit. Install an inlet plenum when testing a coil-only indoor unit or a packaged system where the indoor coil is located in the outdoor test room. Add static pressure taps at the center of each face of this plenum, if rectangular, or at four evenly distributed locations along the circumference of an oval or round plenum. Make a manifold that connects the four static-pressure taps using one of the three configurations specified in section 2.4.1. See Figures 7b, 7c, and Figure 8 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22) for cross-sectional dimensions, the minimum length of the inlet plenum, and the locations of the static-pressure taps. When testing a ducted unit having an indoor fan (and the indoor coil is in the indoor test room), the manufacturer has the option to test with or without an inlet plenum installed. Space limitations within the test room may dictate that the manufacturer choose the latter option. If used, construct the inlet plenum and add the four static-pressure taps as shown in Figure 8 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22). Manifold the four static-pressure taps using one of the three configurations specified in section 2.4.1. Never use an inlet plenum when testing a non-ducted system.

* * * * *

2.5.3 Section 6.5.2 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22) describes the method for fabricating static-pressure taps. * * *

* * * * *

2.5.4.3 Minimizing air leakage. For small-duct, high-velocity systems, install an air damper near the end of the interconnecting duct, just prior to the transition to the airflow measuring apparatus of section 2.6. To minimize air leakage, adjust this damper such that the pressure in the receiving chamber of the airflow measuring apparatus is no more than 0.5 inch of water higher than the surrounding test room ambient. In lieu of installing a separate damper, use the outlet air damper box of sections 2.5 and 2.5.4.1 if it allows variable positioning. Also apply these steps to any conventional indoor blower unit that creates a static pressure within the receiving chamber of the airflow measuring apparatus that exceeds the test room ambient pressure by more than 0.5 inches of water column.

* * * * *

3. Testing Procedures

* * * * *

3.1.1 Primary and secondary test methods. * * *

For this capacity comparison, use the Indoor Air Enthalpy Method capacity that is calculated in section 7.3 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22) (and, if testing a coil-only unit, do not make the after-test fan heat adjustments described in section 3.3, 3.4, 3.7, and 3.10 of this Appendix). * * *

* * * * *

3.1.4.1.1 Cooling Full-Load Air Volume Rate for Ducted Units. The manufacturer must specify the Cooling Full-load Air Volume Rate. Use this value as long as the following two requirements are satisfied. First, when conducting the A or A_2 Test (exclusively), the measured air volume rate, when divided by the measured indoor air-side total cooling capacity must not exceed 37.5 cubic feet per minute of standard air (scfm) per 1000 Btu/h. If this ratio is exceeded, reduce the air volume rate until this ratio is equaled. Use this reduced air volume rate for all tests that call for using the Cooling Full-load Air Volume Rate. The second requirement is as follows:

a. For all ducted units tested with an indoor fan installed, except those having a variable-speed, constant-air-volume-rate indoor fan. The second requirement applies exclusively to the A or A_2 Test and is met as follows.

1. Achieve the Cooling Full-load Air Volume Rate, determined in accordance with the previous paragraph;

2. Measure the external static pressure;

3. If this pressure is equal to or greater than the applicable minimum external static pressure cited in Table 2, this second requirement is satisfied. Use the current air volume rate for all tests that require the Cooling Full-load Air Volume Rate.

4. If the Table 2 minimum is not equaled or exceeded,

4a. reduce the air volume rate until the applicable Table 2 minimum is equaled or

4b. until the measured air volume rate equals 95 percent of the air volume rate from step 1, whichever occurs first.

5. If the conditions of step 4a occur first, this second requirement is satisfied. Use the step 4a reduced air volume rate for all tests that require the Cooling Full-load Air Volume Rate.

6. If the conditions of step 4b occur first, make an incremental change to the set-up of the indoor fan (e.g., next highest fan motor pin setting, next highest fan motor speed) and repeat the evaluation process beginning at above step 1. If the indoor fan set-up cannot be further changed, reduce the air volume rate until the applicable Table 2 minimum is equaled. Use this reduced air volume rate for all tests that require the Cooling Full-load Air Volume Rate.

b. For ducted units that are tested with a variable-speed, constant-air-volume-rate indoor fan installed. * * *

* * * * *

TABLE 2.—MINIMUM EXTERNAL STATIC PRESSURE FOR DUCTED SYSTEMS TESTED WITH AN INDOOR FAN INSTALLED

Rated Cooling [1] or Heating [2] Capacity (Btu/h)	Minimum external resistance [3] (Inches of water)	
	All other systems	Small-duct, high-velocity systems [4,5]
Up Thru 28,800	0.10	1.10
29,000 to 42,500	0.15	1.15
43,000 and Above	0.20	1.20

[1] For air conditioners and heat pumps, the value cited by the manufacturer in published literature for the unit's capacity when operated at the *A* or A_2 Test conditions.

[2] For heating-only heat pumps, the value the manufacturer cites in published literature for the unit's capacity when operated at the *H1* or $H1_2$ Test conditions.

[3] For ducted units tested without an air filter installed, increase the applicable tabular value by 0.08 inch of water.

[4] See Definition 1.35 to determine if the equipment qualifies as a small-duct, high-velocity system.

[5] If a closed-loop, air-enthalpy test apparatus is used on the indoor side, limit the resistance to airflow on the inlet side of the indoor blower coil to a maximum value of 0.1 inch of water. Impose the balance of the airflow resistance on the outlet side of the indoor blower.

* * * * *

3.1.4.2 Cooling Minimum Air Volume Rate. a. * * *

$$\text{Cooling Minimum Air Vol. Rate} = \text{Cooling Full-load Air Vol. Rate} \times \frac{\text{Cooling Minimum Fan Speed}}{A_2\text{Test Fan Speed}},$$

* * *

b. * * *

$$A_1,\ B_1,\ C_1,\ F_1,\ \&\ G_1\ \text{Test}\ \Delta P_{st} = \Delta P_{st,\,A_2} \times \left[\frac{\text{Cooling Minimum Air Volume Rate}}{\text{Cooling Full-load Air Volume Rate}}\right]^2,$$

* * * * *

3.1.4.3 Cooling Intermediate Air Volume Rate. a. * * *

$$\text{Cooling Intermediate Air Vol. Rate} = \text{Cooling Full-load Air Vol. Rate} \times \frac{E_V\text{Test Fan Speed}}{A_2\text{Test Fan Speed}},$$

* * *

b. * * *

$$E_V\text{Test}\ \Delta P_{st} = \Delta P_{st,\,A_2} \times \left[\frac{\text{Cooling Intermediate Air Volume Rate}}{\text{Cooling Full-load Air Volume Rate}}\right]^2,$$

* * * * *

3.1.4.4.2 Ducted heat pumps where the Heating and Cooling Full-load Air Volume Rates are different due to indoor fan operation. a. * * *

$$\text{Heating Full-load Air Volume Rate} = \text{Cooling Full-load Air Volume Rate} \times \frac{\text{H1 or H1}_2\ \text{Test Fan Speed}}{\text{A or A}_2\ \text{Test Fan Speed}},$$

* * *

b. * * *

$$\text{Heating Full-load}\ \Delta P_{st} = \text{Cooling Full-load}\ \Delta P_{st} \times \left[\frac{\text{Heating Full-load Air Volume Rate}}{\text{Cooling Full-load Air Volume Rate}}\right]^2,$$

* * * * *

3.1.4.4.3 Ducted heating-only heat pumps. The manufacturer must specify the Heating Full-load Air Volume Rate.

a. For all ducted heating-only heat pumps tested with an indoor fan installed, except those having a variable-speed, constant-air-volume-rate indoor fan. Conduct the following steps only during the first test, the H1 or $H1_2$ Test.

1. Achieve the Heating Full-load Air Volume Rate.

2. Measure the external static pressure.

3. If this pressure is equal to or greater than the Table 2 minimum external static pressure that applies given the heating-only heat pump's rated heating capacity, use the current air volume rate for all tests that require the Heating Full-load Air Volume Rate.

4. If the Table 2 minimum is not equaled or exceeded,

4a. reduce the air volume rate until the applicable Table 2 minimum is equaled or

4b. until the measured air volume rate equals 95 percent of the manufacturer-specified Full-load Air Volume Rate, whichever occurs first.

5. If the conditions of step 4a occurs first, use the step 4a reduced air volume rate for all tests that require the Heating Full-load Air Volume Rate.

6. If the conditions of step 4b occur first, make an incremental change to the set-up of the indoor fan (e.g., next highest fan motor pin setting, next highest fan motor speed) and repeat the evaluation process beginning at above step 1. If the indoor fan set-up cannot be further changed, reduce the air volume rate until the applicable Table 2 minimum is equaled. Use this reduced air volume rate for all tests that require the Heating Full-load Air Volume Rate.

b. For ducted heating-only heat pumps that are tested with a variable-speed, constant-air-volume-rate indoor fan installed. * * *

* * * * *

3.1.4.5 Heating Minimum Air Volume Rate. a. * * *

$$\text{Heating Minimum Air Vol. Rate} = \text{Heating Full-load Air Vol. Rate} \times \frac{\text{Heating Minimum Fan Speed}}{\text{H1}_2\text{Test Fan Speed}},$$

* * * b. * * *

$$\text{H0}_1,\ \text{H1}_1,\ \text{H2}_1,\ \text{H3}_1,\ \text{Test}\ \Delta P_{st} = \Delta P_{st,\,H1_2} \times \left[\frac{\text{Htg Minimum Air Vol. Rate}}{\text{Htg Full-load Air Vol. Rate}}\right]^2,$$

* * * * * 3.1.4.6 Heating Intermediate Air Volume Rate. a. * * *

$$\text{Heating Intermediate Air Volume Rate} = \text{Heating Full-load Air Volume Rate} \times \frac{\text{H2}_V\text{Test Fan Speed}}{\text{H1}_2\text{Test Fan Speed}},$$

* * * b. * * *

$$\text{H2}_V\ \text{Test}\ \Delta P_{st} \Delta P_{st,\,H1_2} \times \left[\frac{\text{Heating Intermediate Air Volume Rate}}{\text{Heating Full-load Air Volume Rate}}\right]^2,$$

* * * * * 3.1.4.7 Heating Nominal Air Volume Rate. * * *

$$\text{Heating Nominal Air Volume Rate} = \text{Heating Full-load Air Volume Rate} \times \frac{\text{H1}_N\text{Test Fan Speed}}{\text{H1}_2\text{Test Fan Speed}},$$

$$\text{H1}_N\ \text{Test}\ \Delta P_{st} = \Delta P_{st,\,H1_2} \times \left[\frac{\text{Heating Nominal Air Volume Rate}}{\text{Heating Full-load Air Volume Rate}}\right]^2,$$

* * * * *

3.1.6 * * * (Note: In the first printing of ASHRAE Standard 37–2005, the second IP equation for Q_{mi} should read,

$$1097CA_n\sqrt{P_v v_n'}\ .) * * *$$

* * *

* * * * *

3.2.1 * * * If the two optional tests are conducted but yield a tested $C_D{}^c$ that exceeds the default $C_D{}^c$ or if the two optional tests are not conducted, assign $C_D{}^c$ the default value of 0.25. * * *

* * * * *

3.2.2.1 * * * If the two optional tests are conducted but yield a tested $C_D{}^c$ that exceeds the default $C_D{}^c$ or if the two optional tests are not conducted, assign $C_D{}^c$ the default value of 0.25. * * *

* * * * *

3.2.3 Tests for a unit having a two-capacity compressor. (See Definition 1.45.)

a. Conduct four steady-state wet coil tests: the A_2, B_2, B_1, and F_1 Tests. Use the two optional dry-coil tests, the steady-state C_1 Test and the cyclic D_1 Test, to determine the cooling-mode cyclic-degradation coefficient, $C_D{}^c$. If the two optional tests are conducted but yield a tested $C_D{}^c$ that exceeds the default $C_D{}^c$ or if the two optional tests are not conducted, assign $C_D{}^c$ the default value of 0.25. Table 5 specifies test conditions for these six tests.

* * * * *

d. If a two-capacity air conditioner or heat pump locks out low-capacity operation at higher outdoor temperatures, then use the two optional dry-coil tests, the steady-state C_2 Test and the cyclic D_2 Test, to determine the cooling-mode cyclic-degradation coefficient that only applies to on/off cycling from high capacity, $C_D{}^c(k=2)$. If the two optional tests are conducted but yield a tested $C_D{}^c(k=2)$ that exceeds the default $C_D{}^c(k=2)$ or if the two optional tests are not conducted, assign $C_D{}^c(k=2)$ the default value. The default $C_D{}^c(k=2)$ is the same value as determined or assigned for the low-capacity cyclic-degradation coefficient, $C_D{}^c$ [or equivalently, $C_D{}^c(k=1)$].

TABLE 5.—COOLING MODE TEST CONDITIONS FOR UNITS HAVING A TWO-CAPACITY COMPRESSOR

Test description	Air entering indoor unit temperature (°F)		Air entering outdoor unit temperature (°F)		Compressor capacity	Cooling air volume rate
	Dry bulb	Wet bulb	Dry bulb	Wet bulb		
A_2 Test—required (steady, wet coil)	80	67	95	[1] 75	High	Cooling Full-Load.[2]
B_2 Test—required (steady, wet coil)	80	67	82	[1] 65	High	Cooling Full-Load.[2]
B_1 Test—required (steady, wet coil)	80	67	82	[1] 65	Low	Cooling Minimum.[3]
C_2 Test—optional (steady, dry-coil)	80	([4])	82		High	Cooling Full-Load.[2]
D_2 Test—optional (cyclic, dry-coil)	80	([4])	82		High	([5])
C_1 Test—optional (steady, dry-coil)	80	([4])	82		Low	Cooling Minimum.[3]
D_1 Test—optional (cyclic, dry-coil)	80	([4])	82		Low	([6])
F_1 Test—required (steady, wet coil)	80	67	67	[1] 53.5	Low	Cooling Minimum.[3]

[1] The specified test condition only applies if the unit rejects condensate to the outdoor coil.
[2] Defined in section 3.1.4.1.
[3] Defined in section 3.1.4.2.
[4] The entering air must have a low enough moisture content so no condensate forms on the indoor coil. DOE recommends using an indoor air wet-bulb temperature of 57 °F or less.
[5] Maintain the airflow nozzle(s) static pressure difference or velocity pressure during the ON period at the same pressure or velocity as measured during the C_2 Test.
[6] Maintain the airflow nozzle(s) static pressure difference or velocity pressure during the ON period at the same pressure or velocity as measured during the C_1 Test.

3.2.4 Tests for a unit having a variable-speed compressor. a. * * * If the two optional tests are conducted but yield a tested $C_D{}^c$ that exceeds the default $C_D{}^c$ or if the two optional tests are not conducted, assign $C_D{}^c$ the default value of 0.25. * * *

c. For multiple-split air conditioners and heat pumps (except where noted), the following procedures supersede the above requirements: For all Table 6 tests specified for a minimum compressor speed, at least one indoor unit must be turned off. The manufacturer shall designate the particular indoor unit(s) that is turned off. The manufacturer must also specify the compressor speed used for the Table 6 E_V Test, a cooling-mode intermediate compressor speed that falls within ¼ and ¾ of the difference between the maximum and minimum cooling-mode speeds. The manufacturer should prescribe an intermediate speed that is expected to yield the highest EER for the given E_V Test conditions and bracketed compressor speed range. The manufacturer can designate that one or more indoor units are turned off for the E_V Test.

* * * * *

TABLE 6.—COOLING MODE TEST CONDITION FOR UNITS HAVING A VARIABLE-SPEED COMPRESSOR

Test description	Air entering indoor unit temperature (°F)		Air entering outdoor unit temperature (°F)		Compressor speed	Cooling air volume rate
	Dry bulb	Wet bulb	Dry bulb	Wet bulb		
A_2 Test—required (steady, wet coil)	80	67	95	[1] 75	Maximum	Cooling Full-Load[2]
B_2 Test—required (steady, wet coil)	80	67	82	[1] 65	Maximum	Cooling Full-Load[2]
E_V Test—required (steady, wet coil)	80	67	87	[1] 69	Intermediate	Cooling Intermediate [3]
B_1 Test—required (steady, wet coil)	80	67	82	[1] 65	Minimum	Cooling Minimum [4]
F_1 Test—required (steady, wet coil)	80	67	67	[1] 53.5	Minimum	Cooling Minimum [4]
G_1 Test [5]—optional (steady, dry-coil)	80	([6])	67		Minimum	Cooling Minimum [4]
I_1 Test [5]—optional (cyclic, dry-coil)	80	([6])	67		Minimum	([6])

[1] The specified test condition only applies if the unit rejects condensate to the outdoor coil.
[2] Defined in section 3.1.4.1.
[3] Defined in section 3.1.4.3.
[4] Defined in section 3.1.4.2.
[5] The entering air must have a low enough moisture content so no condensate forms on the indoor coil. DOE recommends using an indoor air wet bulb temperature of 57°F or less.
[6] Maintain the airflow nozzle(s) static pressure difference or velocity pressure during the ON period at the same pressure difference or velocity pressure as measured during the G_1 Test.

* * * * *

3.4 Test procedures for the optional steady-state dry-coil cooling-mode tests (the C, C_1, C_2, and G_1 Tests).

* * * * *

b. Denote the resulting total space cooling capacity and electrical power derived from the test as $\dot{Q}_{ss,dry}$ and $\dot{E}_{ss,dry}$. With regard to a section 3.3 deviation, do not adjust $\dot{Q}_{ss,dry}$ for duct losses (i.e., do not apply section 7.3.3.3 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22)). In preparing for the section 3.5 cyclic tests, record the average indoor-side air volume rate, $\dot{V}$, specific heat of the air, Cp,a (expressed on dry air basis), specific volume of the air at the nozzles, v'_n, humidity ratio at the nozzles, W_n, and either pressure difference or velocity pressure for the flow nozzles. For units having a variable-speed indoor fan (that provides either a constant or variable air volume rate) that will or may be tested during the cyclic dry coil cooling mode test with the indoor fan turned off (see section 3.5), include the electrical power used by the indoor fan motor among the recorded parameters from the 30-minute test.

3.5 Test procedures for the optional cyclic dry-coil cooling-mode tests (the D, D_1, D_2, and I_1 Tests).

* * * * *

3.5.3 Cooling-mode cyclic-degradation coefficient calculation. Use the two optional dry-coil tests to determine the cooling-mode cyclic-degradation coefficient, C_D^c. Append ''(k=2)'' to the coefficient if it corresponds to a two-capacity unit cycling at high capacity. If the two optional tests are conducted but yield a tested C_D^c that exceeds the default C_D^c or if the two optional tests are not conducted, assign C_D^c the default value of 0.25. The default value for two-capacity units cycling at high capacity, however, is the low-capacity coefficient, i.e., $C_D^c(k=2)=C_D^c$. Evaluate C_D^c using the above results and those from the section 3.4 dry-coil steady-state test.

* * * * *

3.6.1 * * * Conduct the optional High Temperature Cyclic (H1C) Test to determine the heating mode cyclic-degradation coefficient, C_D^h. If this optional test is conducted but yields a tested C_D^h that exceeds the default C_D^h or if the optional test is not conducted, assign C_D^h the default value of 0.25. Test conditions for the four tests are specified in Table 9. * * *

* * * * *

3.6.2 Tests for a heat pump having a single-speed compressor and a variable-speed, variable-air-volume-rate indoor fan: capacity modulation correlates with outdoor dry bulb temperature. Conduct five tests: two High Temperature Tests ($H1_2$ and $H1_1$), one Frost Accumulation Test ($H2_2$), and two Low Temperature Tests ($H3_2$ and $H3_1$). Conducting an additional Frost Accumulation Test ($H2_1$) is optional. Conduct the optional High Temperature Cyclic ($H1C_1$) Test to determine the heating mode cyclic-degradation coefficient, C_D^h. If this optional test is conducted but yields a tested C_D^h that exceeds the default C_D^h or if the optional test is not conducted, assign C_D^h the default value of 0.25. Test conditions for the seven tests are specified in Table 10. If the optional $H2_1$ Test is not performed, use the following equations to approximate the capacity and electrical power of the heat pump at the $H2_1$ test conditions:

* * * * *

3.6.3 Tests for a heat pump having a two-capacity compressor (see Definition 1.45), including two-capacity, northern heat pumps (see Definition 1.46). a. Conduct one Maximum Temperature Test ($H0_1$), two High Temperature Tests ($H1_2$ and $H1_1$), one Frost Accumulation Test ($H2_2$), and one Low Temperature Test ($H3_2$). Conduct an additional Frost Accumulation Test ($H2_1$) and Low Temperature Test ($H3_1$) if both of the following conditions exist:

1. Knowledge of the heat pump's capacity and electrical power at low compressor capacity for outdoor temperatures of 37°F and less is needed to complete the section 4.2.3 seasonal performance calculations; and

2.The heat pump's controls allow low-capacity operation at outdoor temperatures of 37°F and less.

If the above two conditions are met, an alternative to conducting the $H2_1$ Frost Accumulation is to use the following equations to approximate the capacity and electrical power:

$$\dot{Q}_h^{k=1}(35) = 0.90 \cdot \left\{ \dot{Q}_h^{k=1}(17) + 0.6 \cdot \left[\dot{Q}_h^{k=1}(47) - \dot{Q}_h^{k=1}(17) \right] \right\}$$

$$\dot{E}_h^{k=1}(35) = 0.985 \cdot \left\{ \dot{E}_h^{k=1}(17) + 0.6 \cdot \left[\dot{E}_h^{k=1}(47) - \dot{E}_h^{k=1}(17) \right] \right\}$$

Determine the quantities $\dot{Q}_h^{k=1}$ (47) and $\dot{E}_h^{k=1}$ (47) from the $H1_1$ Test and evaluate them according to Section 3.7. Determine the quantities $\dot{Q}_h^{k=1}$ (17) and $\dot{E}_h^{k=1}$ (17) from the $H3_1$ Test and evaluate them according to Section 3.10.

b. Conduct the optional High Temperature Cyclic Test ($H1C_1$) to determine the heating-mode cyclic-degradation coefficient, C_D^h. If this optional test is conducted but yields a tested C_D^h that exceeds the default C_D^h or if the optional test is not conducted, assign C_D^h the default value of 0.25. If a two-capacity heat pump locks out low capacity operation at lower outdoor temperatures, conduct the optional High Temperature Cyclic Test ($H1C_2$) to determine the high-capacity heating-mode cyclic-degradation coefficient, C_D^h (k=2). If this optional test at high capacity is conducted but yields a tested C_D^h (k=2) that exceeds the default C_D^h (k=2) or if the optional test is not conducted, assign C_D^h the default value. The default C_D^h (k=2) is the same value as determined or assigned for the low-capacity cyclic-degradation coefficient, C_D^h [or equivalently, C_D^h (k=1)]. Table 11 specifies test conditions for these nine tests.

TABLE 11.—HEATING MODE TEST CONDITIONS FOR UNITS HAVING A TWO-CAPACITY COMPRESSOR

Test description	Air entering indoor unit temperature (°F)		Air entering outdoor unit temperature (°F)		Compressor capacity	Heating air volume rate
	Dry bulb	Wet bulb	Dry bulb	Wet bulb		
$H0_1$ Test (required, steady)	70	60(max)	62	56.5	Low	Heating Minimum.[1]
$H1_2$ Test (required, steady)	70	60(max)	47	43	High	Heating Full-Load.[2]

TABLE 11.—HEATING MODE TEST CONDITIONS FOR UNITS HAVING A TWO-CAPACITY COMPRESSOR—Continued

Test description	Air entering indoor unit temperature (°F)		Air entering outdoor unit temperature (°F)		Compressor capacity	Heating air volume rate
	Dry bulb	Wet bulb	Dry bulb	Wet bulb		
H1C$_2$ Test (optional, cyclic)	70	60$^{(max)}$	47	43	High	([3])
H1$_1$ Test (required)	70	60$^{(max)}$	47	43	Low	Heating Minimum.[1]
H1C$_1$ Test (optional, cyclic)	70	60$^{(max)}$	47	43	Low	([4])
H2$_2$ Test (required)	70	60$^{(max)}$	35	33	High	Heating Full-Load.[2]
H2$_1$ Test[5,6] (required)	70	60$^{(max)}$	35	33	Low	Heating Minimum.[1]
H3$_2$ Test (required, steady)	70	60$^{(max)}$	17	15	High	Heating Full-Load.[2]
H3$_1$ Test[5] (required, steady)	70	60$^{(max)}$	17	15	Low	Heating Minimum.[1]

[1] Defined in section 3.1.4.5.
[2] Defined in section 3.1.4.4.
[3] Maintain the airflow nozzle(s) static pressure difference or velocity pressure during the ON period at the same pressure or velocity as measured during the *H1*$_2$ Test.
[4] Maintain the airflow nozzle(s) static pressure difference or velocity pressure during the ON period at the same pressure or velocity as measured during the *H1*$_1$ Test.
[5] Required only if the heat pump's performance when operating at low compressor capacity and outdoor temperatures less than 37°F is needed to complete the section 4.2.3 *HSPF* calculations.
[6] If table note #5 applies, the section 3.6.3 equations for $\dot{Q}_h^{k=1}$ (35) and $\dot{E}_h^{k=1}$ (17) may be used in lieu of conducting the H2$_1$ Test.

3.6.4 Tests for a heat pump having a variable-speed compressor. a. * * * Conduct the optional Maximum Temperature Cyclic (H0C$_1$) Test to determine the heating mode cyclic-degradation coefficient, C_D^h. If this optional test is conducted but yields a tested C_D^h that exceeds the default C_D^h or if the optional test is not conducted, assign C_D^h the default value of 0.25. Test conditions for the eight tests are specified in Table 12. * * *

c. For multiple-split heat pumps (only), the following procedures supersede the above requirements. For all Table 12 tests specified for a minimum compressor speed, at least one indoor unit must be turned off. The manufacturer shall designate the particular indoor unit(s) that is turned off. The manufacturer must also specify the compressor speed used for the Table 12 H2$_V$ Test, a heating-mode intermediate compressor speed that falls within ¼ and ¾ of the difference between the maximum and minimum heating-mode speeds. The manufacturer should prescribe an intermediate speed that is expected to yield the highest COP for the given H2$_V$ Test conditions and bracketed compressor speed range. The manufacturer can designate that one or more specific indoor units are turned off for the H2$_V$ Test.

* * * * *

TABLE 12.—HEATING MODE TEST CONDITIONS FOR UNITS HAVING A VARIABLE-SPEED COMPRESSOR

Test description	Air entering indoor unit temperature (°F)		Air entering outdoor unit temperature (°F)		Compressor speed	Heating air volume rate
	Dry bulb	Wet bulb	Dry bulb	Wet bulb		
H0$_1$ Test (required, steady)	70	60$^{(max)}$	62	56.5	Minimum	Heating Minimum.[1]
H0C$_1$ Test (optional, steady)	70	60$^{(max)}$	62	56.5	Minimum	([2])
H1$_2$ Test (required, steady)	70	60$^{(max)}$	47	43	Maximum	Heating Full-Load.[3]
H1$_1$ Test (required, steady)	70	60$^{(max)}$	47	43	Minimum	Heating Minimum.[1]
H1$_N$ Test (optional, steady)	70	60$^{(max)}$	47	43	Cooling Mode Maximum	Heating Nominal.[4]
H2$_2$ Test (optional)	70	60$^{(max)}$	35	33	Maximum	Heating Full-Load.[3]
H2$_V$ Test (required)	70	60$^{(max)}$	35	33	Intermediate	Heating Intermediate.[5]
H3$_2$ Test (required, steady)	70	60$^{(max)}$	17	15	Maximum	Heating Full-Load.[3]

[1] Defined in section 3.1.4.5.
[2] Maintain the airflow nozzle(s) static pressure difference or velocity pressure during an ON period at the same pressure or velocity as measured during the H0$_1$ Test.
[3] Defined in section 3.1.4.4.
[4] Defined in section 3.1.4.7.
[5] Defined in section 3.1.4.6.

* * * * *

3.7 Test procedures for steady-state Maximum Temperature and High Temperature heating mode tests (the $H0_1$, H1, $H1_2$, $H1_1$, and $H1_N$ Tests). a. * * *

b. Calculate indoor-side total heating capacity as specified in sections 7.3.4.1 and 7.3.4.3 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22). * * *

* * * * *

3.8 Test procedures for the optional cyclic heating mode tests (the $H0C_1$, H1C, $H1C_1$ and $H1C_2$ Tests).

* * * * *

3.8.1 Heating mode cyclic-degradation coefficient calculation. Use the results from the optional cyclic test and the required steady-state test that were conducted at the same test conditions to determine the heating-mode cyclic-degradation coefficient C_D^h. Add ''(k=2)'' to the coefficient if it corresponds to a two-capacity unit cycling at high capacity. For the below calculation of the heating mode cyclic degradation coefficient, do not include the duct loss correction from section 7.3.3.3 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22) in determining $\dot{Q}_h^k(T_{cyc})$ (or q_{cyc}). If the optional cyclic test is conducted but yields a tested C_D^h that exceeds the default C_D^h or if the optional test is not conducted, assign C_D^h the default value of 0.25. The default value for two-capacity units cycling at high capacity, however, is the low-capacity coefficient, i.e., C_D^h (k=2) = C_D^h. The tested C_D^h is calculated as follows:

$$C_D^h = \frac{1 - \dfrac{COP_{cyc}}{COP_{ss}\left(T_{cyc}\right)}}{1 - HLF}$$

* * *

* * * * *

3.9 * * *

c. The official test period begins when the preliminary test period ends, at defrost termination. The official test period ends at the termination of the next occurring automatic defrost cycle. When testing a heat pump that uses a time-adaptive defrost control system (see Definition 1.42), however, manually initiate the defrost cycle that ends the official test period at the instant indicated by instructions provided by the manufacturer. If the heat pump has not undergone a defrost after 6 hours, immediately conclude the test and use the results from the full 6-hour period to calculate the average space heating capacity and average electrical power consumption.

For heat pumps that turn the indoor fan off during the defrost cycle, take steps to cease forced airflow through the indoor coil and block the outlet duct whenever the heat pump's controls cycle off the indoor fan. If it is installed, use the outlet damper box described in section 2.5.4.1 to affect the blocked outlet duct.

* * * * *

f. * * * Sample measurements used in calculating the air volume rate (refer to sections 7.7.2.1 and 7.7.2.2 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22)) at equal intervals that span 10 minutes or less. (Note: In the first printing of ASHRAE Standard 37–2005, the second IP equation for Q_{mi} should read: .)

$$1097CA_n\sqrt{P_v v_n'}\ .)***$$

* * * * *

3.9.1 Average space heating capacity and electrical power calculations.

a. * * *

To account for the effect of duct losses between the outlet of the indoor unit and the section 2.5.4 dry-bulb temperature grid, adjust $\dot{Q}_h^k(35)$ in accordance with section 7.3.4.3 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22).

* * * * * *

3.11 Additional requirements for the secondary test methods.

3.11.1 If using the Outdoor Air Enthalpy Method as the secondary test method.

* * * * *

3.11.1.3 Official test.

* * * * *

b. For space cooling tests, calculate capacity from the outdoor air-enthalpy measurements as specified in sections 7.3.3.2 and 7.3.3.3 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22). Calculate heating capacity based on outdoor air-enthalpy measurements as specified in sections 7.3.4.2 and 7.3.3.4.3 of the same ASHRAE Standard. Adjust the outdoor-side capacity according to section 7.3.3.4 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22) to account for line losses when testing split systems. Use the outdoor unit fan power as measured during the official test and not the value measured during the preliminary test, as described in section 8.6.2 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22), when calculating the capacity.

3.11.2 If using the Compressor Calibration Method as the secondary test method.

a. * * * Otherwise, conduct the calibration tests according to ASHRAE Standard 23–05 (incorporated by reference, see § 430.22), ASHRAE Standard 41.9–2000 (incorporated by reference, see § 430.22), and section 7.4 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22).

b. Calculate space cooling and space heating capacities using the compressor calibration method measurements as specified in section 7.4.5 and 7.4.6 respectively, of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22).

3.11.3 If using the Refrigerant-Enthalpy Method as the secondary test method. Conduct this secondary method according to section 7.5 of ASHRAE Standard 37–2005 (incorporated by reference, see § 430.22). Calculate space cooling and heating capacities using the refrigerant-enthalpy method measurements as specified in sections 7.5.4 and 7.5.5, respectively, of the same ASHRAE Standard.

* * * * * *

4. Calculations of Seasonal Performance Descriptors

* * * * *

4.1.3 SEER calculations for an air conditioner or heat pump having a two-capacity compressor. Calculate SEER using Equation 4.1–1. Evaluate the space cooling capacity, $\dot{Q}_c^{k=1}(T_j)$, and electrical power consumption, $\dot{E}_c^{k=1}(T_j)$, of the test unit when operating at low compressor capacity and outdoor temperature T_j using,

$$\dot{Q}_c^{k=1}(T_j) = \dot{Q}_c^{k=1}(67) + \frac{\dot{Q}_c^{k=1}(82) - \dot{Q}_c^{k=1}(67)}{82 - 67} \cdot (T_j - 67) \qquad (4.1.3\text{-}1)$$

$$\dot{E}_c^{k=1}(T_j) = E_c^{k=1}(67) + \frac{E_c^{k=1}(82) - E_c^{k=1}(67)}{82 - 67} \cdot (T_j - 67) \qquad (4.1.3\text{-}2)$$

where $\dot{Q}_c^{k=1}$ (82) and $\dot{E}_c^{k=1}$ (82) are determined from the B_1 Test, $\dot{Q}_c^{k=1}$ (67) and $\dot{E}_c^{k=1}$ (67) are determined from the F_1 Test, and all four quantities are calculated as specified in section 3.3. Evaluate the space cooling capacity, $\dot{Q}_c^{k=2}$ (T_j), and electrical power consumption, $\dot{E}_c^{k=2}$ (T_j), of the test unit when operating at high compressor capacity and outdoor temperature T_j using,

$$\dot{Q}_c^{k=2}(T_j) = \dot{Q}_c^{k=2}(82) + \frac{\dot{Q}_c^{k=2}(95) - \dot{Q}_c^{k=2}(82)}{95-82} \cdot (T_j - 82) \qquad (4.1.3\text{-}3)$$

* * * * *

4.1.3.3 * * *

$$PLF_j = 1 - C_D^c(k=2) \cdot \left[1 - X^{k=2}(T_j)\right],$$

the part load factor, dimensionless.

Obtain the fraction bin hours for the cooling season,

$$\frac{n_j}{N},$$

from Table 16. Use Equations 4.1.3–3 and 4.1.3–4, respectively, to evaluate $\dot{Q}_c^{k=2}$ (T_j) and $\dot{E}_c^{k=2}$ (T_j). If the optional C_2 and D_2 Tests described in section 3.2.3 and Table 5 are not conducted, set C_D^c (k=2) equal to the default value specified in section 3.5.3. If these optional tests are conducted, set C_D^c (k=2) to the lower of:

a. the C_D^c (k=2) value calculated as per section 3.5.3; or

b. the section 3.5.3 default value for C_D^c (k=2) .

* * * * *

4.1.4 SEER calculations for an air conditioner or heat pump having a variable-speed compressor. Calculate SEER using Equation 4.1–1. Evaluate the space cooling capacity, $\dot{Q}_c^{k=1}$ (T_j), and electrical power consumption $\dot{E}_c^{k=1}$ (T_j), of the test unit when operating at minimum compressor speed and outdoor temperature T_j. Use Equations 4.1.3–1 and 4.1.3–2, respectively, where $\dot{Q}_c^{k=1}$ (82) and $\dot{E}_c^{k=1}$ (82) are determined from the B_1 Test, $\dot{Q}_c^{k=1}$ (67) and $\dot{E}_c^{k=1}$ (67) are determined from the F_1 Test, and all four quantities are calculated as specified in section 3.3. Evaluate the space cooling capacity, $\dot{Q}_c^{k=2}$ (T_j), and electrical power consumption, $\dot{E}_c^{k=2}$ (T_j), of the test unit when operating at maximum compressor speed and outdoor temperature T_j. Use Equations 4.1.3–3 and 4.1.3–4, respectively, where $\dot{Q}_c^{k=2}$ (95) and $\dot{E}_c^{k=2}$ (95) are determined from the A_2 Test, $\dot{Q}_c^{k=2}$ (82) and $\dot{E}_c^{k=2}$ (82) are determined from the B_2 Test, and all four quantities are calculated as specified in section 3.3. Calculate the space cooling capacity, $\dot{Q}_c^{k=v}$ (T_j), and electrical power consumption, $\dot{E}_c^{k=v}$ (T_j), of the test unit when operating at outdoor temperature T_j and the intermediate compressor speed used during the section 3.2.4 (and Table 6) E_V Test using,

$$\dot{Q}_c^{k=v}(T_j) = \dot{Q}_c^{k=v}(87) + M_Q \cdot (T_j - 87) \qquad (4.1.4\text{-}1)$$

$$\dot{E}_c^{k=v}(T_j) = \dot{E}_c^{k=v}(87) + M_E \cdot (T_j - 87) \qquad (4.1.4\text{-}2)$$

where $\dot{Q}_c^{k=v}$ (87) and $\dot{E}_c^{k=v}$ (87) are determined from the E_v Test and calculated as specified in section 3.3. Approximate the slopes of the k = v intermediate speed cooling capacity and electrical power input curves, M_Q and M_E, as follows: * * *

where,

$$N_Q = \frac{\dot{Q}_c^{k=v}(87) - \dot{Q}_c^{k=1}(87)}{\dot{Q}_c^{k=2}(87) - \dot{Q}_c^{k=1}(87)}, \text{ and } N_E = \frac{\dot{E}_c^{k=v}(87) - \dot{E}_c^{k=1}(87)}{\dot{E}_c^{k=2}(87) - \dot{E}_c^{k=1}(87)}.$$

Use Equations 4.1.3–1 and 4.1.3–2 for T_j = 87°F to determine $\dot{Q}_c^{k=1}$ (87) and $\dot{E}_c^{k=1}$ (87), respectively. Use Equations 4.1.3–3 and 4.1.3–4 for T_j = 87°F to determine $\dot{Q}_c^{k=2}$ (87) and $\dot{E}_c^{k=2}$ (87), respectively.

Calculating Equation 4.1–1 quantities

$$\frac{q_c(T_j)}{N} \text{ and } \frac{e_c(T_j)}{N}$$

differs depending upon whether the test unit would operate at minimum speed (section 4.1.4.1), operate at an intermediate speed (section 4.1.4.2), or operate at maximum speed (section 4.1.4.3) in responding to the building load. Use Equation 4.1–2 to calculate the building load, BL(T_j), for each temperature bin.

4.1.4.1 * * * Use Equations 4.1.3–1 and 4.1.3–2, respectively, to evaluate $\dot{Q}_c^{k=1}$ (T_j) and $\dot{E}_c^{k=1}$ (T_j).

4.1.4.2 * * *

$$A = EER^{k=2}(T_2) - B \cdot T_2 - C \cdot T_2^2$$

where,

T_1 = the outdoor temperature at which the unit, when operating at minimum compressor speed, provides a space cooling capacity that is equal to the building load ($\dot{Q}_c^{k=1}(T_1) = BL(T_1)$), °F. Determine T_1 by equating Equations 4.1.3–1 and 4.1–2 and solving for outdoor temperature. T_v = the outdoor temperature at which the unit, when operating at the intermediate compressor speed used during the section 3.2.4 E_V Test, provides a space cooling capacity that is equal to the building load ($\dot{Q}_c^{k=v}(T_v) = BL(T_v)$), °F. Determine T_v by equating Equations 4.1.4–1 and 4.1–2 and solving for outdoor temperature. * * *

$$EER^{k=1}(T_1) = \frac{\dot{Q}_c^{k=1}(T_1)\left[\text{Eqn. 4.1.3-1, substituting } T_1 \text{ for } T_j\right]}{\dot{E}_c^{k=1}(T_1)\left[\text{Eqn. 4.1.3-2, substituting } T_1 \text{ for } T_j\right]}, \text{ Btu/h per W.}$$

$$EER^{k=v}(T_v) = \frac{\dot{Q}_c^{k=v}(T_v)\left[\text{Eqn. 4.1.4-1, substituting } T_v \text{ for } T_j\right]}{\dot{E}_c^{k=v}(T_v)\left[\text{Eqn. 4.1.4-2, substituting } T_v \text{ for } T_j\right]}, \text{ Btu/h per W.}$$

* * * * *

For multiple-split air conditioners and heat pumps (only), the following procedures supersede the above requirements for calculating $EER^{k=i}(T_j)$. For each temperature bin where $T_1 < T_j < T_v$,

$$EER^{k=i}(T_j) = EER^{k=1}(T_1) + \frac{EER^{k=v}(T_v) - EER^{k=1}(T_1)}{T_v - T_1} \cdot (T_j - T_1).$$

* * * * *

4.2.3.3 * * *

$$PLF_j = 1 - C_D^h(k=2) \cdot \left[1 - X^{k=2}(T_j)\right].$$

If the optional $H1C_2$ Test described in section 3.6.3 and Table 11 is not conducted, set C_D^h (k=2) equal to the default value specified in section 3.8.1.

If this optional test is conducted, set C_D^h (k=2) to the lower of:

a. the C_D^h (k=2) value calculated as per section 3.8.1; or

b. the section 3.8.1 default value for C_D^h (k=2).

Determine the low temperature cut-out factor, $\delta(T_j)$, using Equation 4.2.3–3.

* * * * *

4.2.4 * * *

$$M_Q = \left[\frac{\dot{Q}_h^{k=1}(62) - \dot{Q}_h^{k=1}(47)}{62-47} \cdot \left(1 - N_Q\right)\right] + \left[N_Q \cdot \frac{\dot{Q}_h^{k=2}(35) - \dot{Q}_h^{k=2}(17)}{35-17}\right]$$

$$M_E = \left[\frac{\dot{E}_h^{k=1}(62) - \dot{E}_h^{k=1}(47)}{62-47} \cdot \left(1 - N_E\right)\right] + \left[N_E \cdot \frac{\dot{E}_h^{k=2}(35) - \dot{E}_h^{k=2}(17)}{35-17}\right]$$

* * * * *

4.2.4.2 * * *

For multiple-split heat pumps (only), the following procedures supersede the above requirements for calculating $COP_h^{k=i}(T_j)$. For each temperature bin where $T_3 > T_j > T_{vh}$,

$$COP_h^{k=i}(T_j) = COP_h^{k=1}(T_3) + \frac{COP_h^{k=v}(T_{vh}) - COP_h^{k=1}(T_3)}{T_{vh} - T_3} \cdot (T_j - T_3).$$

For each temperature bin where $T_{vh} \geq T_j > T_4$,

$$COP_h^{k=i}\left(T_j\right) = COP_h^{k=v}\left(T_{vh}\right) + \frac{COP_h^{k=2}\left(T_4\right) - COP_h^{k=v}\left(T_{vh}\right)}{T_4 - T_{vh}} \cdot \left(T_j - T_{vh}\right).\text{''}$$

* * * * *

■ 7. Section 430.62 is amended in subpart F by revising paragraphs (a)(4)(i) and (ii) to read as follows:

§ 430.62 Submission of data.

(a) * * *

(4) * * *

(i) Central air conditioners, the seasonal energy efficiency ratio. For central air conditioners whose seasonal energy efficiency ratio is based on an installation that includes a particular model of ducted air mover (e.g., furnace, air handler, blower kit, etc.), the model number of this ducted air mover must be included among the model numbers listed on the certification report.

(ii) Central air conditioning heat pumps, the seasonal energy efficiency ratio and heating seasonal performance factor. For central air conditioning heat pumps whose seasonal energy efficiency ratio and heating seasonal performance factor are based on an installation that includes a particular model of ducted air mover (e.g., furnace, air handler, blower kit, etc.), the model number of this ducted air mover must be included among the model numbers listed on the certification report.

* * * * *

[FR Doc. 07–5142 Filed 10–19–07; 8:45 am]

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October 22, 2007

Part IV

Department of Housing and Urban Development

24 CFR Part 982

Housing Choice Voucher Program Homeownership Option; Eligibility of Units Not Yet Under Construction; Final Rule

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

24 CFR Part 982

[Docket No. FR–4991–F–02]

RIN 2577–AC60

Housing Choice Voucher Program Homeownership Option; Eligibility of Units Not Yet Under Construction

AGENCY: Office of the Assistant Secretary for Public and Indian Housing; HUD.

ACTION: Final rule.

SUMMARY: This final rule revises HUD's regulations for the homeownership option authorized under the Housing Choice Voucher (HCV) program. Through the homeownership option, a public housing agency (PHA) may provide voucher assistance for an eligible family that purchases a dwelling unit for residence by the family. This final rule authorizes the use of voucher homeownership assistance for the purchase of units not yet under construction at the time the family contracts to purchase the home. This revision will expand the housing choices available to families participating in the homeownership option under the HCV program. This final rule follows publication of a May 29, 2007, proposed rule and takes into consideration the one public comment received on it. After careful consideration of the issues raised by the commenter, HUD has decided to adopt the proposed rule without change.

DATES: *Effective Date:* November 21, 2007.

FOR FURTHER INFORMATION CONTACT: Danielle Bastarache, Director of the Housing Voucher Management and Operations Division, Office of Public and Indian Housing, 451 Seventh Street, SW., Room 4210, Washington, DC 20410–8000; telephone number (202) 708–0477 (this is not a toll-free number). Hearing- or speech-impaired individuals may access this number via TTY by calling the toll-free Federal Information Relay Service at (800) 877–8339.

SUPPLEMENTARY INFORMATION:

I. Background—The May 29, 2007, Proposed Rule

On May 29, 2007, at 72 FR 29744, HUD published a proposed rule for public comment to revise its regulations for the homeownership option authorized under the HCV program. Through the HCV program, HUD pays rental subsidies so that eligible families can afford decent, safe, and sanitary housing. Under the homeownership option of the HCV program, a PHA may provide voucher assistance for an eligible family to purchase, rather than rent, a dwelling unit for residence by the family. The regulations for the homeownership option are codified in subpart M of the HCV program regulations at 24 CFR part 982. Subpart M describes program requirements for alternatives to the basic HCV program.

In general, a PHA that administers assistance under the HCV program may offer homeownership assistance as an option for qualified families. Before commencing homeownership assistance for a family, the PHA determines whether the family is qualified, the unit is eligible, and the family has satisfactorily completed the required PHA program of pre-assistance homeownership counseling. Prior to this final rule, the homeownership option regulations provided that, to be eligible for purchase with voucher assistance, a unit must be either an existing unit or under construction at the time the family enters into the contract for sale. Upon further consideration, HUD found the housing eligibility requirements to be overly restrictive.

For example, job growth in an area will frequently trigger the construction of new housing developments. The eligibility prohibition had the potential to deter voucher families from moving to such an area in search of employment opportunities. In addition, the requirements hampered efforts to use homeownership voucher assistance in combination with mutual self-help or other sweat-equity programs in those high-cost market areas where affordable homeownership opportunities otherwise remain elusive for participating homeownership voucher families. Further, many localities have established affordable housing requirements for developers of new housing subdivisions mandating that a specified percentage of the homes to be constructed be set aside for purchase by low-income families. The eligibility restriction that was formerly in place prohibited voucher families from benefiting from these local affordable housing initiatives prior to the construction of new homes.

Since few existing homes are accessible to persons with impaired mobility, the prohibition also had the potential to make it more difficult for persons with disabilities to purchase a home with voucher assistance. Modification of the home following purchase is not always easily accomplished and may require the purchaser to incur significant additional costs. Allowing the purchase of units not yet under construction, as provided by the May 29, 2007, proposed rule, would allow individuals with disabilities to make design changes for accessibility purposes while the home is being built, thus minimizing homeownership costs.

II. Discussion of Public Comment

The public comment period on the May 29, 2007, proposed rule closed on July 30, 2007. HUD received one public comment from a housing authority.

The commenter stated that it strongly supports the proposed rule but considered § 982.628(e)(1)(i) of the proposed rule too rigid because it did not specify a time limit for HUD to approve the environmental certification, as completed by the responsible entity, and to request the release of funds. The commenter suggested that its experience has shown that once the environmental certification is completed by the responsible entity, approval and request for the release of funds should be a simple process that should be able to be completed within a 30-day time frame. The commenter stated that any delay beyond the 30-day period would delay the start of construction and increase the cost to the builder and eventually to the homebuyer and the HCV homeownership program.

HUD declines to adopt the commenter's suggestion. HUD agrees with the commenter that once the environmental certification is completed, HUD approval and release of funds is a simple process, and to date, PHAs have not expressed concerns that a finite time period for completion of the approval and release of funds process is necessary. HUD is concerned that adopting a one-size-fits-all approach would hamper any flexibility that may be necessary under certain circumstances. However, in the event that delays result in the approval and release of funds process, HUD will revisit this issue.

This final rule therefore adopts the proposed rule without change and permits the use of voucher homeownership assistance for the purchase of units not yet under construction at the time the family contracts to purchase the home.

III. This Final Rule

Consistent with the proposed rule, this final rule provides that the PHA may not commence homeownership assistance for the family until: (1) HUD has approved an environmental certification and request for release of funds under 24 CFR part 58 or has notified the PHA of environmental

approval of the site under 24 CFR part 50 prior to commencement of construction; (2) the unit's construction has been completed; and (3) the unit has passed the Housing Quality Standards and independent inspections required under § 982.631(a). Since the final rule authorizes the provision of federal homeownership assistance to be used for units not yet under construction, the assistance must comply with applicable federal environmental review requirements. Individual actions on up to four dwelling units are generally excluded from review under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*) (NEPA). Such actions, however, must comply with other federal environmental review authorities (such as those regarding the preservation of historic properties, the management of floodplains, and the protection of wetlands). HUD's regulations implementing NEPA and related environmental laws and authorities are codified at 24 CFR parts 50 and 58.

Under 24 CFR part 58, a unit of general local government, a county, or a state (referred to in 24 CFR part 58 as the ''responsible entity'') is responsible for the required federal environmental reviews, pursuant to a number of HUD program statutes, including Title I of the United States Housing Act of 1937, which authorizes the HCV program. If a PHA objects in writing to the performance of the federal environmental review by the responsible entity, or if the responsible entity declines to perform the review, then HUD may perform the environmental review itself (see 24 CFR 58.11). HUD's performance of the environmental review is governed by 24 CFR part 50.

Consistent with the proposed rule, the final rule also requires additional terms to be included in the contract of sale if the unit is not yet under construction and instructs PHAs on when it is appropriate to begin providing homeownership assistance. Specifically, the contract of sale between the family and the seller must provide that: (1) The purchaser is not obligated to purchase the unit unless an environmental review has been performed and the site has received environmental approval prior to commencement of construction, in accordance with 24 CFR 982.628; (2) construction will not commence until the required environmental review has been completed and the seller has received written notice from the PHA that environmental approval has been obtained.

The environmental review may not necessarily result in environmental approval, and environmental approval may be conditioned on the contracting parties' agreement to modifications to the unit design or to mitigation actions; and (3) commencement of construction in violation of the preceding clause voids the purchase contract and renders homeownership assistance under this part unavailable for purchase of the unit. A PHA may not commence homeownership assistance for the family until either: (1) The responsible entity has completed the environmental review procedures required by 24 CFR part 58 and HUD has approved the environmental certification and request for release of funds; or (2) HUD has performed an environmental review under 24 CFR part 50 and has notified the PHA, in writing, of environmental approval of the site.

This final rule permits voucher families to benefit from local affordable housing initiatives and development of affordable housing in areas where job growth is occurring, as well as aids in reducing the cost of making homes accessible to persons with mobility impairments while still complying with applicable federal environmental review requirements.

This final rule, consistent with the proposed rule, makes explicit that the initial environmental review requirements for units not yet under construction are broader than for those units that are constructed or that are under construction. The final rule provides that when a family receiving homeownership assistance chooses to move to another unit, environmental review requirements must be satisfied for that unit in order for the family to continue receiving tenant-based assistance. This includes completing a new environmental review for any unit not yet under construction.

IV. Findings and Certifications

Environmental Impact

A Finding of No Significant Impact with respect to the environment was made at the proposed rule stage in accordance with HUD regulations at 24 CFR part 50, which implement section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C)). That finding remains applicable to this final rule and is available for public inspection between the hours of 8 a.m. and 5 p.m. weekdays in the Regulations Division, Office of General Counsel, Department of Housing and Urban Development, 451 Seventh Street, SW., Room 10276, Washington, DC 20410–0500. Due to security measures at the HUD Headquarters building, please schedule an appointment to review the finding by calling the Regulations Division at (202) 708–3055 (this is not a toll-free number).

Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*) generally requires an agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements, unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. This final rule is exclusively concerned with PHAs that administer tenant-based housing assistance under the HCV program. Specifically, the final rule expands the types of units that are eligible for purchase under the homeownership option to include units not yet under construction at the time the family enters into the contract of sale. Under the definition of ''small governmental jurisdiction'' in section 601(5) of the RFA, the provisions of the RFA are applicable only to those few PHAs that are part of a political jurisdiction with a population of fewer than 50,000 persons. The number of entities potentially affected by this rule is, therefore, not substantial. Accordingly, the undersigned certifies that this rule will not have a significant economic impact on a substantial number of small entities.

Executive Order 13132, Federalism

Executive Order 13132 (entitled ''Federalism'') prohibits an agency from publishing any rule that has federalism implications if the rule either imposes substantial direct compliance costs on state and local governments and is not required by statute, or the rule preempts state law, unless the agency meets the consultation and funding requirements of section 6 of the Executive Order. This rule will not have federalism implications and would not impose substantial direct compliance costs on state and local governments or preempt state law within the meaning of the Executive Order.

Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA) (2 U.S.C. 1531–1538) establishes requirements for federal agencies to assess the effects of their regulatory actions on state, local, and tribal governments, and on the private sector. This rule will not impose any federal mandates on any state, local, or tribal governments, or on the private sector, within the meaning of the UMRA.

Catalog of Federal Domestic Assistance

The Catalog of Federal Domestic Assistance Number for the HCV program is 14.871.

List of Subjects in 24 CFR Part 982

Grant programs—housing and community development, Housing, Low- and moderate-income housing, Rent subsidies, Reporting and recordkeeping requirements.

■ Accordingly, for the reasons described in the preamble, HUD amends 24 CFR part 982 as follows:

PART 982—SECTION 8 TENANT-BASED ASSISTANCE: HOUSING CHOICE VOUCHER PROGRAM

■ 1. The authority citation for 24 CFR part 982 continues to read as follows:

Authority: 42 U.S.C. 1437f and 3535(d).

■ 2. Revise § 982.626(c) to read as follows:

§ 982.626 Homeownership option: Initial requirements.

* * * * *

(c) *Environmental requirements.* The PHA is responsible for complying with the authorities listed in § 58.6 of this title requiring the purchaser to obtain and maintain flood insurance for units in special flood hazard areas, prohibiting assistance for acquiring units in the coastal barrier resources system, and requiring notification to the purchaser of units in airport runway clear zones and airfield clear zones. In the case of units not yet under construction at the time the family enters into the contract for sale, the additional environmental review requirements referenced in § 982.628(e) of this part also apply, and the PHA shall submit all relevant environmental information to the responsible entity or to HUD to assist in completion of those requirements.

■ 3. Amend § 982.628 as follows:

■ a. Remove paragraph (a)(2);

■ b. Redesignate paragraphs (a)(3), (a)(4), and (a)(5) as paragraphs (a)(2), (a)(3), and (a)(4), respectively; and

■ c. Add paragraph (e) to read as follows:

§ 982.628 Homeownership option: Eligible units.

* * * * *

(e) *Units not yet under construction.* Families may enter into contracts of sale for units not yet under construction at the time the family enters into the contract for sale. However, the PHA shall not commence homeownership assistance for the family for that unit, unless and until:

(1) Either:

(i) The responsible entity completed the environmental review procedures required by 24 CFR part 58, and HUD approved the environmental certification and request for release of funds prior to commencement of construction; or

(ii) HUD performed an environmental review under 24 CFR part 50 and notified the PHA in writing of environmental approval of the site prior to commencement of construction;

(2) Construction of the unit has been completed; and

(3) The unit has passed the required Housing Quality Standards (HQS) inspection (see § 982.631(a)) and independent inspection (see § 982.631(b)).

■ 4. Add § 982.631(c)(3) to read as follows:

§ 982.631 Homeownership option: Home inspections, contract of sale, and PHA disapproval of seller.

* * * * *

(c) * * *

(3) In addition to the requirements contained in paragraph (c)(2) of this section, a contract for the sale of units not yet under construction at the time the family is to enter into the contract for sale must also provide that:

(i) The purchaser is not obligated to purchase the unit unless an environmental review has been performed and the site has received environmental approval prior to commencement of construction in accordance with 24 CFR 982.628.

(ii) The construction will not commence until the environmental review has been completed and the seller has received written notice from the PHA that environmental approval has been obtained. Conduct of the environmental review may not necessarily result in environmental approval, and environmental approval may be conditioned on the contracting parties' agreement to modifications to the unit design or to mitigation actions.

(iii) Commencement of construction in violation of paragraph (c)(3)(ii) of this section voids the purchase contract and renders homeownership assistance under 24 CFR part 982 unavailable for purchase of the unit.

* * * * *

■ 5. Revise § 982.637(b) introductory text to read as follows:

§ 982.637 Homeownership option: Move with continued tenant-based assistance.

* * * * *

(b) *Requirements for continuation of homeownership assistance.* The PHA must determine that all initial requirements listed in § 982.626 (including the environmental requirements with respect to a unit not yet under construction) have been satisfied if a family that has received homeownership assistance wants to move to such a unit with continued homeownership assistance. However, the following requirements do not apply:

* * * * *

Dated: October 15, 2007.

Orlando J. Cabrera,

Assistant Secretary for Public and Indian Housing.

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S. 474/P.L. 110–95

To award a congressional gold medal to Michael Ellis DeBakey, M.D. (Oct. 16, 2007; 121 Stat. 1008)

S. 1612/P.L. 110–96

International Emergency Economic Powers Enhancement Act (Oct. 16, 2007; 121 Stat. 1011)

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300–499	(869–062–00035–9)	47.00	Jan. 1, 2007
500–599	(869–062–00036–7)	39.00	Jan. 1, 2007
600–899	(869–062–00037–5)	56.00	Jan. 1, 2007
900–End	(869–062–00038–3)	50.00	Jan. 1, 2007
13	(869–062–00039–1)	55.00	Jan. 1, 2007
14 Parts:			
1–59	(869–062–00040–5)	63.00	Jan. 1, 2007
60–139	(869–062–00041–3)	61.00	Jan. 1, 2007
140–199	(869–062–00042–1)	30.00	Jan. 1, 2007
200–1199	(869–062–00043–0)	50.00	Jan. 1, 2007
1200–End	(869–062–00044–8)	45.00	Jan. 1, 2007
15 Parts:			
0–299	(869–062–00045–6)	40.00	Jan. 1, 2007
300–799	(869–062–00046–4)	60.00	Jan. 1, 2007
800–End	(869–062–00047–2)	42.00	Jan. 1, 2007
16 Parts:			
0–999	(869–062–00048–1)	50.00	Jan. 1, 2007
1000–End	(869–062–00049–9)	60.00	Jan. 1, 2007
17 Parts:			
1–199	(869–062–00051–1)	50.00	Apr. 1, 2007
200–239	(869–062–00052–9)	60.00	Apr. 1, 2007
240–End	(869–062–00053–7)	62.00	Apr. 1, 2007
18 Parts:			
1–399	(869–062–00054–5)	62.00	Apr. 1, 2007
400–End	(869–062–00055–3)	26.00	Apr. 1, 2007
19 Parts:			
1–140	(869–062–00056–1)	61.00	Apr. 1, 2007
141–199	(869–062–00057–0)	58.00	Apr. 1, 2007
200–End	(869–062–00058–8)	31.00	Apr. 1, 2007
20 Parts:			
1–399	(869–062–00059–6)	50.00	Apr. 1, 2007
400–499	(869–062–00060–0)	64.00	Apr. 1, 2007
500–End	(869–062–00061–8)	63.00	Apr. 1, 2007
21 Parts:			
1–99	(869–062–00062–6)	40.00	Apr. 1, 2007
100–169	(869–062–00063–4)	49.00	Apr. 1, 2007
170–199	(869–062–00064–2)	50.00	Apr. 1, 2007
200–299	(869–062–00065–1)	17.00	Apr. 1, 2007
300–499	(869–062–00066–9)	30.00	Apr. 1, 2007
500–599	(869–062–00067–7)	47.00	Apr. 1, 2007
600–799	(869–062–00068–5)	17.00	Apr. 1, 2007
800–1299	(869–062–00069–3)	60.00	Apr. 1, 2007
1300–End	(869–062–00070–7)	25.00	Apr. 1, 2007
22 Parts:			
1–299	(869–062–00071–5)	63.00	Apr. 1, 2007
300–End	(869–062–00072–3)	45.00	Apr. 1, 2007
23	(869–062–00073–7)	45.00	Apr. 1, 2007
24 Parts:			
0–199	(869–062–00074–0)	60.00	Apr. 1, 2007
200–499	(869–062–00075–8)	50.00	Apr. 1, 2007
500–699	(869–062–00076–6)	30.00	Apr. 1, 2007
700–1699	(869–062–00077–4)	61.00	Apr. 1, 2007
1700–End	(869–062–00078–2)	30.00	Apr. 1, 2007
25	(869–062–00079–1)	64.00	Apr. 1, 2007
26 Parts:			
§§ 1.0–1–1.60	(869–062–00080–4)	49.00	Apr. 1, 2007
§§ 1.61–1.169	(869–062–00081–2)	63.00	Apr. 1, 2007
§§ 1.170–1.300	(869–062–00082–1)	60.00	Apr. 1, 2007
§§ 1.301–1.400	(869–062–00083–9)	47.00	Apr. 1, 2007
§§ 1.401–1.440	(869–062–00084–7)	56.00	Apr. 1, 2007
§§ 1.441–1.500	(869–062–00085–5)	58.00	Apr. 1, 2007
§§ 1.501–1.640	(869–062–00086–3)	49.00	Apr. 1, 2007
§§ 1.641–1.850	(869–062–00087–1)	61.00	Apr. 1, 2007
§§ 1.851–1.907	(869–062–00088–0)	61.00	Apr. 1, 2007
§§ 1.908–1.1000	(869–062–00089–8)	60.00	Apr. 1, 2007
§§ 1.1001–1.1400	(869–062–00090–1)	61.00	Apr. 1, 2007
§§ 1.1401–1.1550	(869–062–00091–0)	58.00	Apr. 1, 2007
§§ 1.1551–End	(869–062–00092–8)	50.00	Apr. 1, 2007
2–29	(869–062–00093–6)	60.00	Apr. 1, 2007
30–39	(869–062–00094–4)	41.00	Apr. 1, 2007
40–49	(869–062–00095–2)	28.00	[7] Apr. 1, 2007
50–299	(869–062–00096–1)	42.00	Apr. 1, 2007

Title	Stock Number	Price	Revision Date
300–499	(869–062–00097–9)	61.00	Apr. 1, 2007
500–599	(869–062–00098–7)	12.00	[6] Apr. 1, 2007
600–End	(869–062–00099–5)	17.00	Apr. 1, 2007
27 Parts:			
1–39	(869–062–00100–2)	64.00	Apr. 1, 2007
40–399	(869–062–00101–1)	64.00	Apr. 1, 2007
400–End	(869–062–00102–9)	18.00	Apr. 1, 2007
28 Parts:			
0–42	(869–062–00103–7)	61.00	July 1, 2007
43–End	(869–062–00104–5)	60.00	July 1, 2007
29 Parts:			
0–99	(869–062–00105–3)	50.00	[9] July 1, 2007
100–499	(869–062–00106–1)	23.00	July 1, 2007
500–899	(869–062–00107–0)	61.00	[9] July 1, 2007
900–1899	(869–062–00108–8)	36.00	July 1, 2007
1900–1910 (§§ 1900 to 1910.999)	(869–062–00109–6)	61.00	July 1, 2007
1910 (§§ 1910.1000 to end)	(869–062–00110–0)	46.00	July 1, 2007
1911–1925	(869–062–00111–8)	30.00	July 1, 2007
1926	(869–062–00112–6)	50.00	July 1, 2007
1927–End	(869–062–00113–4)	62.00	July 1, 2007
30 Parts:			
1–199	(869–062–00114–2)	57.00	July 1, 2007
200–699	(869–062–00115–1)	50.00	July 1, 2007
700–End	(869–062–00116–9)	58.00	July 1, 2007
31 Parts:			
0–199	(869–062–00117–7)	41.00	July 1, 2007
200–499	(869–062–00118–5)	46.00	July 1, 2007
500–End	(869–060–00118–2)	62.00	July 1, 2006
32 Parts:			
1–39, Vol. I		15.00	[2] July 1, 1984
1–39, Vol. II		19.00	[2] July 1, 1984
1–39, Vol. III		18.00	[2] July 1, 1984
1–190	(869–062–00120–7)	61.00	July 1, 2007
191–399	(869–060–00120–4)	63.00	July 1, 2006
400–629	(869–060–00121–2)	50.00	July 1, 2006
630–699	(869–062–00123–1)	37.00	July 1, 2007
700–799	(869–062–00124–0)	46.00	July 1, 2007
800–End	(869–062–00125–8)	47.00	July 1, 2007
33 Parts:			
1–124	(869–060–00125–5)	57.00	July 1, 2006
125–199	(869–060–00126–3)	61.00	July 1, 2006
200–End	(869–062–00128–2)	57.00	July 1, 2007
34 Parts:			
1–299	(869–062–00129–1)	50.00	July 1, 2007
300–399	(869–062–00130–4)	40.00	July 1, 2007
400–End & 35	(869–060–00130–1)	61.00	[8] July 1, 2006
36 Parts:			
1–199	(869–062–00132–1)	37.00	July 1, 2007
200–299	(869–062–00133–9)	37.00	July 1, 2007
300–End	(869–060–00133–6)	61.00	July 1, 2006
37	(869–062–00135–5)	58.00	July 1, 2007
38 Parts:			
0–17	(869–062–00136–3)	60.00	July 1, 2007
18–End	(869–060–00136–1)	62.00	July 1, 2006
39	(869–062–00138–0)	42.00	July 1, 2007
40 Parts:			
1–49	(869–060–00138–7)	60.00	July 1, 2006
50–51	(869–062–00140–1)	45.00	July 1, 2007
52 (52.01–52.1018)	(869–062–00141–0)	60.00	July 1, 2007
52 (52.1019–End)	(869–062–00142–8)	64.00	July 1, 2007
53–59	(869–060–00142–5)	31.00	July 1, 2006
60 (60.1–End)	(869–062–00144–4)	58.00	July 1, 2007
60 (Apps)	(869–062–00145–2)	57.00	July 1, 2007
61–62	(869–062–00146–1)	45.00	July 1, 2007
63 (63.1–63.599)	(869–060–00146–8)	58.00	July 1, 2006
63 (63.600–63.1199)	(869–060–00147–6)	50.00	July 1, 2006
63 (63.1200–63.1439)	(869–060–00148–4)	50.00	July 1, 2006
63 (63.1440–63.6175)	(869–060–00149–2)	32.00	July 1, 2006
63 (63.6580–63.8830)	(869–060–00150–6)	32.00	July 1, 2006
63 (63.8980–End)	(869–060–00151–4)	35.00	July 1, 2006
64–71	(869–062–00153–3)	29.00	July 1, 2007
72–80	(869–060–00153–1)	62.00	July 1, 2006
81–84	(869–062–00155–0)	50.00	July 1, 2007
85–86 (85–86.599–99)	(869–062–00156–8)	61.00	July 1, 2007
86 (86.600–1–End)	(869–060–00156–5)	50.00	July 1, 2006
87–99	(869–060–00157–3)	60.00	July 1, 2006
100–135	(869–062–00159–2)	45.00	July 1, 2007
136–149	(869–060–00159–0)	61.00	July 1, 2006
150–189	(869–060–00160–3)	50.00	July 1, 2006
190–259	(869–062–00162–2)	39.00	[9] July 1, 2007
260–265	(869–060–00162–0)	50.00	July 1, 2006
266–299	(869–060–00163–8)	50.00	July 1, 2006
300–399	(869–060–00164–6)	42.00	July 1, 2006
400–424	(869–062–00166–5)	56.00	[9] July 1, 2007
425–699	(869–060–00166–2)	61.00	July 1, 2006
700–789	(869–062–00168–1)	61.00	July 1, 2007
790–End	(869–060–00168–9)	61.00	July 1, 2006
41 Chapters:			
1, 1–1 to 1–10		13.00	[3] July 1, 1984
1, 1–11 to Appendix, 2 (2 Reserved)		13.00	[3] July 1, 1984
3–6		14.00	[3] July 1, 1984
7		6.00	[3] July 1, 1984
8		4.50	[3] July 1, 1984
9		13.00	[3] July 1, 1984
10–17		9.50	[3] July 1, 1984
18, Vol. I, Parts 1–5		13.00	[3] July 1, 1984
18, Vol. II, Parts 6–19		13.00	[3] July 1, 1984
18, Vol. III, Parts 20–52		13.00	[3] July 1, 1984
19–100		13.00	[3] July 1, 1984
1–100	(869–060–00169–7)	24.00	July 1, 2006
101	(869–062–00171–1)	21.00	July 1, 2007
102–200	(869–062–00172–0)	56.00	July 1, 2007
201–End	(869–060–00172–7)	24.00	July 1, 2006
42 Parts:			
1–399	(869–060–00173–5)	61.00	Oct. 1, 2006
400–413	(869–060–00174–3)	32.00	Oct. 1, 2006
414–429	(869–060–00175–1)	32.00	Oct. 1, 2006
430–End	(869–060–00176–0)	64.00	Oct. 1, 2006
43 Parts:			
1–999	(869–060–00177–8)	56.00	Oct. 1, 2006
1000–end	(869–060–00178–6)	62.00	Oct. 1, 2006
44	(869–060–00179–4)	50.00	Oct. 1, 2006
45 Parts:			
1–199	(869–060–00180–8)	60.00	Oct. 1, 2006
200–499	(869–060–00181–6)	34.00	Oct. 1, 2006
500–1199	(869–060–00182–4)	56.00	Oct. 1, 2006
1200–End	(869–060–00183–2)	61.00	Oct. 1, 2006
46 Parts:			
1–40	(869–060–00184–1)	46.00	Oct. 1, 2006
41–69	(869–060–00185–9)	39.00	Oct. 1, 2006
70–89	(869–060–00186–7)	14.00	Oct. 1, 2006
90–139	(869–060–00187–5)	44.00	Oct. 1, 2006
140–155	(869–060–00188–3)	25.00	Oct. 1, 2006
156–165	(869–060–00189–1)	34.00	Oct. 1, 2006
166–199	(869–060–00190–5)	46.00	Oct. 1, 2006
200–499	(869–060–00191–3)	40.00	Oct. 1, 2006
500–End	(869–060–00192–1)	25.00	Oct. 1, 2006
47 Parts:			
0–19	(869–060–00193–0)	61.00	Oct. 1, 2006
20–39	(869–060–00194–8)	46.00	Oct. 1, 2006
40–69	(869–060–00195–6)	40.00	Oct. 1, 2006
70–79	(869–060–00196–4)	61.00	Oct. 1, 2006
80–End	(869–060–00197–2)	61.00	Oct. 1, 2006
48 Chapters:			
1 (Parts 1–51)	(869–060–00198–1)	63.00	Oct. 1, 2006
1 (Parts 52–99)	(869–060–00199–9)	49.00	Oct. 1, 2006
2 (Parts 201–299)	(869–060–00200–6)	50.00	Oct. 1, 2006
3–6	(869–060–00201–4)	34.00	Oct. 1, 2006

Title	Stock Number	Price	Revision Date
7–14	(869–060–00202–2)	56.00	Oct. 1, 2006
15–28	(869–060–00203–1)	47.00	Oct. 1, 2006
29–End	(869–060–00204–9)	47.00	Oct. 1, 2006
49 Parts:			
1–99	(869–060–00205–7)	60.00	Oct. 1, 2006
100–185	(869–060–00206–5)	63.00	Oct. 1, 2006
186–199	(869–060–00207–3)	23.00	Oct. 1, 2006
200–299	(869–060–00208–1)	32.00	Oct. 1, 2006
300–399	(869–060–00209–0)	32.00	Oct. 1, 2006
400–599	(869–060–00210–3)	64.00	Oct. 1, 2006
600–999	(869–060–00211–1)	19.00	Oct. 1, 2006
1000–1199	(869–060–00212–0)	28.00	Oct. 1, 2006
1200–End	(869–060–00213–8)	34.00	Oct. 1, 2006
50 Parts:			
1–16	(869–060–00214–6)	11.00	[10] Oct. 1, 2006
17.1–17.95(b)	(869–060–00215–4)	32.00	Oct. 1, 2006
17.95(c)–end	(869–060–00216–2)	32.00	Oct. 1, 2006
17.96–17.99(h)	(869–060–00217–1)	61.00	Oct. 1, 2006
17.99(i)–end and 17.100–end	(869–060–00218–9)	47.00	[10] Oct. 1, 2006
18–199	(869–060–00219–7)	50.00	Oct. 1, 2006
200–599	(869–060–00220–1)	45.00	Oct. 1, 2006
600–659	(869–060–00221–9)	31.00	Oct. 1, 2006
660–End	(869–060–00222–7)	31.00	Oct. 1, 2006
CFR Index and Findings Aids	(869–062–00050–2)	62.00	Jan. 1, 2007
Complete 2007 CFR set		1,389.00	2007
Microfiche CFR Edition:			
Subscription (mailed as issued)		332.00	2007
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Complete set (one-time mailing)		332.00	2006
Complete set (one-time mailing)		325.00	2005

[1] Because Title 3 is an annual compilation, this volume and all previous volumes should be retained as a permanent reference source.

[2] The July 1, 1985 edition of 32 CFR Parts 1–189 contains a note only for Parts 1–39 inclusive. For the full text of the Defense Acquisition Regulations in Parts 1–39, consult the three CFR volumes issued as of July 1, 1984, containing those parts.

[3] The July 1, 1985 edition of 41 CFR Chapters 1–100 contains a note only for Chapters 1 to 49 inclusive. For the full text of procurement regulations in Chapters 1 to 49, consult the eleven CFR volumes issued as of July 1, 1984 containing those chapters.

[4] No amendments to this volume were promulgated during the period January 1, 2005, through January 1, 2006. The CFR volume issued as of January 1, 2005 should be retained.

[5] No amendments to this volume were promulgated during the period January 1, 2006, through January 1, 2007. The CFR volume issued as of January 6, 2006 should be retained.

[6] No amendments to this volume were promulgated during the period April 1, 2000, through April 1, 2006. The CFR volume issued as of April 1, 2000 should be retained.

[7] No amendments to this volume were promulgated during the period April 1, 2006 through April 1, 2007. The CFR volume issued as of April 1, 2006 should be retained.

[8] No amendments to this volume were promulgated during the period July 1, 2005, through July 1, 2006. The CFR volume issued as of July 1, 2005 should be retained.

[9] No amendments to this volume were promulgated during the period July 1, 2006, through July 1, 2007. The CFR volume issued as of July 1, 2006 should be retained.

[10] No amendments to this volume were promulgated during the period October 1, 2005, through October 1, 2006. The CFR volume issued as of October 1, 2005 should be retained.