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14 CFR Part 121

Fire Penetration Resistance of Thermal Acoustic Insulation Installed on Transport Category Airplanes; Proposed Rule

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 121

[Docket No.: FAA–2006–24277; Amendment No. 121–323]

RIN 2120–AI75

Fire Penetration Resistance of Thermal Acoustic Insulation Installed on Transport Category Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to extend, by 12 months, the date for operators to comply with the fire penetration resistance requirements of thermal/acoustic insulation used in transport category airplanes manufactured after September 2, 2007. This extension is from September 2, 2007 to September 2, 2008. This action is necessary to allow airframe manufacturers enough time, after getting an acceptable certification test facility, to select and certificate appropriate installations.

DATES: Send your comments by June 2, 2006.

ADDRESSES: You may send comments to Docket No. FAA–2006–24277 using any of the following methods:

- DOT Docket Web site: Go to *http://dms.dot.gov* and follow the instructions for sending your comments electronically.
- Government-wide rulemaking Web site: Go to *http://www.regulations.gov* and follow the instructions for sending your comments electronically.
- *Mail*: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL–401, Washington, DC 20590–0001.
- *Fax*: 1–202–493–2251.
- *Hand Delivery*: Room PL–401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For more information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document.

Privacy: We will post all comments we receive, without change, to *http://dms.dot.gov,* including any personal information you provide. For more information, see the Privacy Act discussion in the **SUPPLEMENTARY INFORMATION** section of this document.

Docket: To read background documents or comments received, go to *http://dms.dot.gov* at any time or to Room PL–401 on the plaza level of the NASSIF Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Jeff Gardlin, FAA, Airframe and Cabin Safety Branch, ANM–115, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98055–4056; telephone (425) 227–2136, facsimile (425) 227–1149, e-mail: *jeff.gardlin@faa.gov.*

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites interested persons to take part in this rulemaking by sending written comments, data, or views. We also invite comments about 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. We ask that you send us two copies of written comments.

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. The docket is available for public inspection before and after the comment closing date. If you wish to review the docket in person, go to the address in the **ADDRESSES** section of this preamble between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. You may also review the docket using the Internet at the web address in the **ADDRESSES** section.

Privacy Act: Using the search function of our docket web site, anyone can find and read the comments received into any of our dockets, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, or other group). 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://dms.dot.gov.*

Before acting on this proposal, we will consider all comments we receive by the closing date for comments. We will consider comments filed late if it is possible to do so without incurring expense or delay. We may change this proposal because of the comments we receive.

If you want the FAA to acknowledge receipt of your comments on this proposal, include with your comments a pre-addressed, stamped postcard on which the docket number appears. We will stamp the date on the postcard and mail it to you.

Proprietary or Confidential Business Information

Do not file in the docket any 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 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 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 using the Internet by:

(1) Searching the Department of Transportation's electronic Docket Management System (DMS) Web page (*http://dms.dot.gov/search*);

(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.

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 III, Section 44701, ''General requirements.'' Under that section, the FAA is charged with promoting safe flight of civil aircraft in air commerce by prescribing minimum standards required in the interest of safety for the design and performance of aircraft. This regulation is within the scope of that authority, because it prescribes new safety standards for the design of transport category airplanes.

Background

We issued Amendment 121–301 on July 31, 2003, to mandate new flammability requirements for thermal/acoustic insulation installed in the fuselage of transport category airplanes. This amendment contained requirements applicable to newly manufactured airplanes, as well as airplanes already in service. The requirements established new standards for flame propagation and flame penetration resistance. We are proposing to extend the compliance date for the flame penetration requirements of the rule applicable to newly manufactured airplanes. The compliance date would be extended by 12 months from September 2, 2007, to September 2, 2008.

Previous Rulemaking

On September 20, 2000, we published an NPRM to upgrade the flammability and fire protection standards for thermal/acoustic insulation installed in transport category airplanes. The NPRM contained a provision for newly manufactured airplanes entering 14 CFR part 121 service to require thermal/acoustic insulation installed in the lower half of the fuselage to provide flame penetration resistance as required in § 25.856(b). The new test method required by § 25.856(b) involves the use of an oil burner similar to those used in other test methods already required in part 25. The requirement raises the level of safety by providing additional time for evacuation in the event of a post-crash fire.

There were many comments on the proposal. Some commenters believed it was too stringent, and some commenters stated it was not stringent enough. Commenters also discussed the compliance date for newly manufactured airplanes, with a similar mixture of those favoring a longer compliance date and those suggesting a shorter compliance date. Several commenters addressed the cost of this provision and felt it was underestimated. Two commenters proposed the objective of the requirement, *i.e.*, increasing the time for evacuation, be the basis of the requirement rather than the fire safety performance of thermal/acoustic insulation. We carefully considered all comments received and the requirement was adopted in the final rule, published on July 31, 2003 (68 FR 45046), in new §§ 25.856(b) and 121.312(e)(3). Section 121.312(e)(3) applies to airplanes manufactured after September 2, 2007. The goal of the part 121 provision was to raise the level of safety of airplanes entering commercial service faster than a new airworthiness standard alone would provide.

Basis of This Proposal

Following publication of the final rule, and the development of the associated Advisory Circular (AC) 25.856–2, we continued to conduct comparative testing with industry to refine the test method. During this testing, we found that certain elements of the test equipment (specifically a fuel nozzle used in the oil burner) were not standardized. Although the parts were ostensibly the same, and so marked, there were design differences that led to different test results at different facilities. The fuel nozzle is used commercially in home heating applications where the design differences are not significant. However, for the FAA certification test, the differences are significant.

To ensure a standardized configuration, the FAA William J. Hughes Technical Center developed a detailed test method and equipment configuration. These were based on the procedures and equipment used at the Technical Center and were intended to ensure the test method was reproducible and repeatable. We recognized the fuel nozzle was an important element of the test setup and procured and distributed multiple, apparently identical nozzles to other test facilities for their use. We conducted comparative tests with multiple test facilities through the International Aircraft Materials Fire Test Working Group. Based on this work, the test method and equipment was finalized.

During the development of the test method, materials under consideration tended either to provide flame penetration resistance that significantly exceeded the requirement, or provide little penetration resistance. The materials we evaluated were not just barely passing the standard. In retrospect, the lack of such materials tended to mask any differences in test facility performance. On deeper investigation of the effect of the nozzle on the test results, we realized there were potential differences in the flow of air through the test burner that could also lead to disparate results from one test facility to another. These differences in airflow were likely obscured by the material performance and the effects of the fuel nozzle originally used. As airframe manufacturers began to develop design solutions to comply with the requirement, they developed insulation materials and installation methods that were optimized for weight and thermal/acoustic performance, while meeting the burnthrough standard. The effect of this optimization was to bring the burnthrough performance very close to the pass/fail limit of the standard and the impact of the nozzle became much greater. Thus, the same insulation material could pass the test at the Technical Center but fail at the manufacturers' test facilities. This was an unacceptable situation for both the FAA and the manufacturers and led to a significant program to identify why this was occurring.

In order to substantiate an installation for approval in accordance with § 25.856(b), there are essentially 3 steps required. First, a suitable material system needs to be identified and qualified (shown to pass the required test). Second, appropriate installation methods must be developed and qualified (the materials, when installed using these methods, must be shown to pass the test). Finally, the actual design data must be generated, once the materials and installation methods have been proven. The first two steps are often sequential, since the appropriate installation methods may be dictated by the type of materials used. However, in some cases, the first two steps could take place simultaneously, or essentially so. This is because the FAA has identified numerous acceptable installation methods in Advisory Circular 25.856–2, and these can be used without further qualification. In addition, some installation approaches are not specific to particular material types.

When we issued the final rule, we considered four years sufficient, but not generous, to design and implement into production installations that meet the fire penetration requirements. Unfortunately, identification of the equipment issues consumed a significant portion of the 4 year compliance time. While this primarily affected the selection of insulation materials, it also had the effect of delaying identification of suitable installation methods, and consequently, developing specific designs. As

discussed in the NPRM and final rule implementing the new requirements, the installation methodology for thermal/acoustic insulation is critical in assuring the flame resistance of the materials actually provides a benefit. If the installation does not enable the insulation to stay in place in a post-crash fire, the material cannot provide a barrier to prevent fire entry into occupied areas.

Although the rule applies to operators, the practical effect is that airframe manufacturers must develop suitable designs. We do not expect operators to demonstrate compliance with the fire penetration requirements of the final rule independently. Sometimes, the existing installation methods are adequate, but for many applications, the airframe manufacturer must change the installation approach to accommodate the specific materials chosen. Since the thermal/acoustic insulation is typically installed in the lower half of the airplane very early in the airplane production process, the airframe manufacturer must anticipate well in advance which serial production airplane must be the first to comply with the requirement. Because the test apparatuses have not been fully qualified up to now, the date by which changes to designs needed to be incorporated in production has passed without the necessary testing completed. This means the current compliance date of September 2, 2007, is not achievable unless manufacturers use materials that are heavier than we anticipated would be necessary, and disrupt production schedules and plans to incorporate these materials into current production. The adverse economic impact of this effort was not considered during the initial rulemaking.

While problems with the test equipment have resulted in delays to certification and qualification of improved materials and installations, the acceptable installation methods identified in AC 25.856–2 will greatly reduce the need to qualify installations separately. Thus, we do not consider the full 4-year compliance time cycle should be restarted. While optimized materials are not qualified as yet, the FAA is actively working with airframe manufacturers to minimize the time required for this step. In most cases, airframe manufacturers have identified the primary materials they intend to use, assuming certification tests are successful. We have considered the ramifications of the delays because of the test equipment and have determined that the principal impact is on the detailed design changes. Ideally these would have already started. However, considering the effect on the schedule of the burner issues, we understand that manufacturers are approximately 12 months behind on making design changes. Therefore, a 12-month extension from September 2, 2007, would enable airframe manufacturers to implement the necessary changes into production. By identifying this extension now, the manufacturers can plan the necessary design and certification actions and avoid taking extraordinary and costly measures to attempt to satisfy the existing compliance date.

This amendment delays an improvement in safety because of unforeseen circumstances. This delay in the compliance date means that a certain number of additional airplanes will enter the fleet that do not meet the flame penetration resistance requirements of § 25.856(b) later than originally anticipated. There are four airframe manufacturers delivering affected airplanes to the United States. We expect these manufacturers to implement compliant installations at the earliest opportunity, which will likely be before the new compliance date. Since the benefits of this provision accumulate as complying airplanes enter the fleet, the benefits will be delayed, but will ultimately be realized. However, there is no reduction to the current safety standard because of this amendment.

Paperwork Reduction Act

There are no new requirements for information collection associated with this amendment.

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 determined there are no ICAO Standards and Recommended Practices that correspond to these regulations.

Executive Order 12866 and DOT Regulatory Policies and Procedures

Executive Order 12866, Regulatory Planning and Review, directs the FAA to assess both the costs and benefits of a regulatory change. We are not allowed to propose or adopt a regulation unless we make a reasoned determination that the benefits of the intended regulation justify its costs. Our assessment of this proposal indicates that its economic impact is minimal. Since its costs and benefits do not make it a ''significant regulatory action'' as defined in the Order, we have not prepared a ''regulatory impact analysis.'' Similarly, we have not prepared a ''regulatory evaluation,'' which is the written cost/benefit analysis ordinarily required for all rulemaking proposals under the DOT Regulatory and Policies and Procedures. We do not need to do the latter analysis where the economic impact of a proposal is minimal.

Economic Assessment, Regulatory Flexibility Determination, International 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 on a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (19 U.S.C. 2531–2533) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, to be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Public Law 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). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this NPRM.

The 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 proposal does not warrant a full evaluation, this order permits a statement to that effect. This statement now follows.

A one-year postponement of the new thermal acoustic insulation standards would spare manufacturers from an additional setup cost of slightly more than $50 million at an expected societal loss of $14 million in benefits. This substantial difference between the cost of compliance and expected benefits may run counter to expectations. The improved flammability standards for thermal/acoustic insulation regulatory

evaluation (July, 2002) estimated the new insulation requirements will produce present value benefits of $222.6 million with present value costs of $108.4 million. The benefit/cost delay dichotomy is because of substantial setup costs and a relatively short postponement of benefits.

Nearly half of the regulatory evaluation estimated $108 million present value costs are the setup costs ($51.1 million in present value), which are incurred in the two years before installing the improved insulation on new production airplanes. These set-up costs are because of configuration management, or the cost resulting from engineering time to fully effect changes in airplane configuration—such as fully accounting for all parts, tools, and shop manual changes. To be in compliance with the new requirements the industry would have to install different insulation for one year, before lighter weight insulation becomes fully available. Two different insulation materials require configuration management costs to double.

With the codification of this proposed rule, society would lose one year of additional safety benefits. For that year new production airplanes would be produced at today's existing level of fire protection, rather than to the improved level of protection. Based on the 2002 regulatory evaluation, the one-year loss of benefit equals $14 million in present value. We estimate the one-year loss in benefit based on the 2002 final thermal acoustic regulatory evaluation. In that evaluation, the present-value benefits equals $222.6 million. The loss of one year of these benefits equals the first year of airplane deliveries divided by the total deliveries (476/7702) multiplied by $222.6 million, or approximately $14 million.

The FAA has, therefore, determined this rulemaking action 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. In addition, the FAA has determined that this rulemaking action: (1) Would not have a significant economic impact on a substantial number of small entities; (2) would not affect international trade; and (3) would not impose an unfunded mandate on state, local, or tribal governments, or on the private sector.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) establishes ''as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation.'' To achieve that principle, the RFA requires that agencies consider flexible regulatory proposals, to explain the rationale for their actions, and to solicit comments. 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 proposed or final 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 proposed or final 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 additional configuration management cost. While these manufacturers are not small entities, the small entity operators are expected to save fuel burn expense, as the one-year interim fix insulation is heavier. Thus, this rule is cost relieving and does not impose a significant economic impact on a substantial number of small entities.

Consequently, the FAA certifies the rulemaking action 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 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 these international standards be the basis for U.S. standards. The FAA has assessed the potential effect of this rulemaking action and has determined that it provides the same cost relief to domestic and international entities and thus has a neutral trade impact.

Unfunded Mandate Assessment

The Unfunded Mandates Reform Act of 1995 (the Act) is intended, among other things, to curb the practice of imposing unfunded Federal mandates on State, local, and tribal governments. Title II of the Act 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) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector. The FAA currently uses an inflation-adjusted value of $120.7 million instead of $100 million.

This action does not contain such a mandate. The requirements of Title II do not apply.

Executive Order 13132, Federalism

The FAA has analyzed this proposed rule under the principles and criteria of Executive Order 13132, Federalism. We determined that this action would 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 and therefore would not have federalism implications

Regulations Affecting Intrastate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (119 Sat. 3213) requires the Administrator, when modifying regulations in title 14 of the CFR in manner affecting intrastate aviation in Alaska, to consider the extend to which Alaska is not served by transportation modes other than aviation, and to establish such regulatory distinctions as he or she considers appropriate. Because this proposed rule would apply to the certification of newly manufactured transport category airplanes and their subsequent operation, it could, if adopted, affect intrastate aviation in Alaska. The FAA therefore specifically requests comments on whether there is justification of applying the proposed rule differently in intrastate operations in Alaska.

Environmental Analysis

Federal Aviation Administration 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 without extraordinary circumstances. The FAA has determined this proposed

rulemaking action qualifies for the categorical exclusion identified in paragraph 3f and involves no extraordinary circumstances.

Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA has analyzed this proposed rulemaking under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use (66 FR 28355, 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.

Lists of Subjects

14 CFR Part 121

Aircraft, Aviation safety.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend part 121 of Title 14, Code of Federal Regulations, as follows:

PART 121—OPERATING REQUIREMENTS: DOMESTIC, FLAG, AND SUPPLEMENTAL OPERATIONS

1. The authority citation for part 121 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 40119, 44101, 44701–44702, 44705, 44709–44711, 44713, 44716–44717, 44722, 44901, 44903–44904, 44912, 46105.

2. Amend § 121.312 by revising paragraph (e)(3) to read as follows:

§ 121.312 Materials for compartment interiors.

* * * * *

(e) Thermal/acoustic insulation materials. For transport category airplanes type certificated after January 1, 1958:

* * * * *

(3) For airplanes with a passenger capacity of 20 or greater, manufactured after September 2, 2008, thermal/acoustic insulation materials installed in the lower half of the fuselage must meet the flame penetration resistance requirements of § 25.856 of this chapter, effective September 2, 2003.

Issued in Washington, DC, on March 27, 2006.

Dorenda D. Baker,

Acting Director, Aircraft Certification Service.

[FR Doc. E6–4791 Filed 3–31–06; 8:45 am]

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