related to the disaster for which SBA issued the original loan. For example, if you discover hidden damage within a reasonable time after SBA approved your original disaster loan and before repair, renovation, or reconstruction is complete, you may request an increase. Or, if applicable building code requirements were changed since SBA approved your original loan, you may request an increase in your loan amount.

§ 123.19 Can I request an increase in the amount of an economic injury loan?

SBA will consider your request for an increase in the loan amount if you can show that the increase is essential for your business to continue and is based on events occurring after SBA approved your original loan which were beyond your control. For example, delays may have occurred beyond your control which prevent you from resuming your normal business activity in a reasonable time frame. Your request for an increase in the loan amount must be related to the disaster for which the SBA economic injury disaster loan was originally made.

§ 123.20 How long do I have to request an increase in the amount of a physical disaster loan or an economic injury loan?

You should request a loan increase as soon as possible after you discover the need for the increase, but not later than two years after SBA approved your physical disaster or economic injury loan. After two years, the SBA Associate Administrator for Disaster Assistance (AA/DA) may waive this limitation after finding extraordinary and unforeseeable circumstances.

Dated: November 14, 1997.

Aida Alvarez,

Administrator.

[FR Doc. 97–30847 Filed 11–24–97; 8:45 am]

BILLING CODE 8025–01–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 95–NM–111–AD]

RIN 2120–AA64

Airworthiness Directives; Boeing Model 737–100, –200, –300, –400, and –500 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Supplemental notice of proposed rulemaking; reopening of comment period.

SUMMARY: This document revises an earlier proposed airworthiness directive (AD), applicable to all Boeing Model 737–100, –200, –300, –400, and –500 series airplanes, which would have superseded an existing AD that currently requires either leak tests of the forward lavatory service system, and repair, as necessary; or draining the system and placarding the lavatory inoperative. That proposed AD would have provided an option for accomplishing terminating action for certain leak tests. It would have required leak tests of other lavatory drain systems; installation of a cap or vacuum break on the flush/fill line; and either periodic replacement of the seal for the cap and tank anti-siphon valve or periodic maintenance of the vacuum break in the flush/fill line. This action revises the proposed AD by removing the terminating action; requiring periodic changing of the seals of certain lavatory drain systems; replacing ''donut valves'' with other FAA-approved valves; revising certain leak test intervals; and revising the pressurization and fluid level requirements for testing. The actions specified by this proposed AD are intended to prevent damage to engines, airframes, and property on the ground that is associated with the problems of ''blue ice'' that forms from leaking lavatory drain systems on transport category airplanes and subsequently dislodges from the airplane fuselage.

DATES: Comments must be received by January 5, 1998.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM–103, Attention: Rules Docket No. 95–NM–111–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124–2207. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

FOR FURTHER INFORMATION CONTACT: Don Eiford, Aerospace Engineer, Systems and Equipment Branch, ANM–130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington; telephone (425) 227–2788; fax (425) 227–1181.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: ''Comments to Docket Number 95–NM–111–AD.'' The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this supplemental NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM–103, Attention: Rules Docket No. 95–NM–111–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056.

Discussion

A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to add an airworthiness directive (AD), applicable to all Boeing Model 737–100, –200, –300, –400, and –500 series airplanes, was published as a notice of proposed rulemaking (NPRM) in the **Federal Register** on November 2, 1995 (60 FR 55673). That NPRM proposed to supersede AD 89–11–03, amendment 39–6223 (54 FR 21933, May 22, 1989), applicable to certain Boeing Model 737–300 and –400 series airplanes. That proposal would have continued to require either repetitive leak tests on the forward lavatory service system, and repair, as necessary; or draining of the system and placarding the lavatory inoperative. It would have also added a requirement to

perform leak tests of other lavatory drain systems; provided for the option of revising the FAA-approved maintenance program to include a schedule of leak tests; required the installation of a cap or vacuum break on the flush/fill line; and required either a periodic replacement of the seal for the cap and tank anti-siphon valve or periodic maintenance of the vacuum break in the flush/fill line. That proposal also would have expanded the applicability of the rule to include all Model 737 series airplanes.

That NPRM was prompted by continuing reports of damage to engines and airframes, separation of engines from airplanes, and damage to property on the ground, caused by ''blue ice'' that forms from leaking lavatory drain systems on transport category airplanes and subsequently dislodges from the airplane fuselage. Such formation and dislodging of ''blue ice,'' if not corrected, could result in damage to the engine and potential separation of the engine from the airplane.

Actions Since the Issuance of Previous NPRM

Since the issuance of that previous NPRM, the FAA has received reports indicating that leakage of certain in-line valves of the lavatory waste drain systems has been detected. In consideration of this and other factors (a more detailed discussion of the other factors is presented later in this supplemental NPRM), the FAA has determined that the terminating action provided by the previous NPRM must be removed from this supplemental NPRM. In addition, the FAA has determined that certain additional changes to the previous NPRM are necessary.

Related AD's

On November 9, 1994, the FAA issued AD 94–23–10, amendment 39–9073 (59 FR 59124, November 16, 1994), which is applicable to Boeing Model 727 series airplanes. That AD contains numerous requirements that are similar to those proposed in this action, which is applicable to Model 737 series airplanes. In fact, several of the proposed requirements of this action are based on alternative methods of compliance that the FAA had approved previously for compliance with AD 94–23–10.

The FAA is currently considering additional rulemaking to address the problems associated with ''blue ice'' on other transport category airplanes.

General Changes to the Proposal: Revision of Optional Maintenance Program

As discussed previously, the FAA has received recent reports of leakage in certain in-line drain (ball) valves. In order to ensure that leak check results are uniformly reviewed before any extension of leak check intervals, the FAA has determined that the previously proposed optional terminating action provided for in paragraph (b) of the previous NPRM must be removed from this supplemental NPRM in order to maintain an adequate level of safety. The 5,000-hour leak test interval remains unchanged.

General Changes to the Proposal: Revised Leak Test Intervals for Certain Valves

Based on recently received new data submitted by various operators, the supplemental NPRM would revise the previously proposed leak test intervals for certain valves. These changes have been added to paragraphs (a) and (b) of this supplemental NPRM. (A more detailed discussion of those proposed changes in the leak test intervals is presented later in the preamble.)

General Changes to the Proposal: Requirement To Change Seals

One comment submitted to the Rules Docket in response to the previously issued NPRM, requests that a requirement to change the valve seals be added to paragraph (a) of the proposal. The commenter points out that if the seals are not changed periodically, they could fail and leak in between leak testing. The FAA concurs with the request, and has added a requirement to paragraph (a) of this supplemental NPRM to change the seals of valves at intervals similar to the proposed requirements of the valve seal changes in paragraph (b) of this supplemental NPRM.

General Changes to the Proposal: Requirement To Remove ''Donut'' Valves

Another comment submitted to the Rules Docket in response to the previously issued NPRM, requests that the FAA mandate the removal of ''donut'' style valves from the airplane and require replacement with one of the three service panel valves, as specified in the proposed rule. The commenter states that the ''donut'' valves have a long history of poor performance.

The FAA concurs that the ''donut'' style valves should be removed. ''Donut'' style valves have been involved in more cases of leakage and consequent formation of ''blue ice'' than any other valve design. In addition, cases of leakage of ''donut'' style valves that have been leak tested (as required by previous AD's) are still being reported. Therefore, the FAA has determined that the ''donut'' style valves should be removed.

However, the FAA finds that, rather than require replacement of the ''donut'' style valves with one of the three service panel valves listed in the previous NPRM, a requirement to replace the ''donut'' valves with ''an FAA-approved valve'' is more appropriate. This leaves an opportunity for operators to choose valves that may be ''FAA-approved,'' but that may not be specified in the rule. Paragraphs (a)(6)(iii) and (b)(2)(iv)(C) of this supplemental NPRM have been revised to reflect this change.

General Changes to the Proposal: Revised Pressurization Requirements

Several comments submitted to the Rules Docket in response to the previously issued NPRM included requests to revise the requirement to pressurize the airplane while performing leak tests to verify the integrity of in-line drain valves or service panel drain valves. The commenters state that applying a minimum pressure of 3 pounds per square inch differential pressure (PSID) across the line by using a leak test tool, such as a hand-held vacuum pump, would be just as effective as pressurizing the airplane, yet would provide a more economical method of accomplishing the leak test. Additionally, the commenters point out that using a 3 PSID differential pressure is consistent with the ''blue ice'' AD requirements for Boeing Model 727 series airplanes.

The FAA concurs. Paragraphs (a) and (b) of this supplemental NPRM have been revised to require the tests while applying a minimum 3 PSID differential pressure in the same direction as would occur during flight.

General Changes to the Proposal: Revised Requirement of Fluid Level

Several comments submitted to the Rules Docket in response to the previously issued NPRM included requests that the FAA revise the proposed leak test procedure to empty and refill the lavatory to within two inches of overflowing. The commenters state that the difference between that specified level of fluid and actual overflowing of the fluid is approximately only one gallon. Since overflow of the lavatory could cause damage to the airplane, the commenters consider that any fluid above normal level (10 gallons) is unnecessary.

Therefore, the commenters request that the required fluid level be reduced.

The FAA concurs that a lower fluid level is acceptable, except in the case of testing the anti-siphon valve. The FAA finds that fluid at the 10-gallon level is too low to result in fluid contacting the seals during the test of the anti-siphon valve; the lack of contact of the fluid with the seals would invalidate the test. Therefore, this supplemental NPRM has been revised to require that the lavatory be filled with a minimum of 10 gallons of fluid, except when testing the anti-siphon valve. However, operators should take precautions to ensure that the tank is not overfilled; a statement to this effect has been added to this supplemental NPRM.

Conclusion

Since the changes described above expand the scope of the previously issued proposed rule, the FAA has determined that it is necessary to reopen the comment period to provide additional opportunity for public comment.

Comments Received

Due consideration has been given to the comments received in response to the NPRM issued previously.

Support for the Proposal

One commenter supports the proposed rule.

Request To Withdraw the Proposal: Risk of Injury From ''Blue Ice'' Is Extremely Remote

The Air Transport Association (ATA) of America, on behalf of its members, requests that the proposed rule be withdrawn. The commenter considers that, from a statistical standpoint, the risk of injury to persons on the ground from falling ''blue ice'' is extremely remote.

The FAA does not concur that the proposed rule should be withdrawn. The FAA has responded to the commenter on this issue during previous rulemaking concerning ''blue ice'' on Boeing Model 727 series airplanes. As stated in the preamble of that final rule, the FAA pointed out that demographic studies have shown that population density has increased around airports, and probably will continue to increase. These are populations that are at greatest risk of damage and injury due to ''blue ice'' dislodging from an airplane during descent. Without actions to ensure that leaks from the aft lavatory drain systems are detected and corrected in a timely manner, ''blue ice'' incidents would go untested and eventually someone would be struck, perhaps fatally, by falling ''blue ice.'' To discount the unsafe condition to persons on the ground presented by falling ''blue ice'' would be a gross breach of the FAA's safety obligations and commitment to the public.

Request To Withdraw the Proposal: Issue an Advisory Circular in Lieu of an AD

This same commenter suggests that, if some type of action must be taken, a more manageable alternative to issuing an AD should be considered. The commenter suggests that such an alternative could be the development of an Advisory Circular (AC).

The FAA does not concur that issuance of an AC would provide a ''more manageable'' method of addressing the ''blue ice'' safety issue. In certain cases, the issuance of an AC is an appropriate first step to address a concern at a more informal level than an AD. In line with this approach, Advisory Circular 120–39, ''Hazards of Waste Water Ice Accumulation Separating from Aircraft in Flight,'' was issued on October 31, 1980. Paragraph 3. of that AC states, ''Each operator should initiate and accomplish inspections and maintenance of waste drain valves, caps, and heater systems to the extent necessary to ensure that these systems remain airworthy and function as designed, to prevent ice build-up from leaking waste water, and the resultant separation from the aircraft.'' The FAA concludes that the time elapsed since the issuance of that AC has given industry sufficient opportunity to make this approach work. The continuing problems with ''blue ice,'' however, demonstrate the need for a more definitive solution; this proposed rule is an appropriate approach.

Request To Revise Rulemaking Criteria To Ensure Level of Safety Is Cost Beneficial

The ATA requests that the FAA redefine the criteria used to determine an ''unsafe condition'' so that the cost of rulemaking (airworthiness directives) is commensurate with the risks associated with not correcting the identified safety concern. Additionally, the commenter states that in meetings between the ATA and FAA management, participants agreed to a definition of ''airworthiness.'' The ATA would like to see that definition adopted for use in determining the need for an airworthiness directive. ATA states that without specific criteria and definitions of these terms, the FAA's determination of an unsafe condition and compliance period for adoption of the proposed rule must be viewed as subjective and, therefore, deficient as rulemaking.

The FAA does not concur with the commenter's assertion that ''without further guidance, the FAA's determination of an unsafe condition must be viewed as subjective and, therefore, deficient as rulemaking.'' The legal question is whether the FAA has identified an unsafe condition that may exist or develop in other products of the same type design. The FAA's determination on this issue is legally appropriate (and the rulemaking is not ''deficient'') as long as the FAA has a reasonable basis for that determination. In this supplemental proposed rule, the FAA finds that there is an unsafe condition based on reports of damage to engines, airframes, and property on the ground that is associated with the problems of ''blue ice'' that forms from leaking lavatory drain systems on transport category airplanes and subsequently dislodges from the airplane fuselage. Although these reasons may be characterized as ''subjective'' because they are qualitative rather than quantitative, the FAA considers them to be appropriate and sufficient to establish the reasonableness of this proposed action.

Request To Consider the Cost Impact to Airline Operators

One commenter states that in order to standardize leak testing intervals at 1,000 and 4,500 flight hours, it will have to install a part in the aft drain system on its entire fleet, and in the forward drain system on airplanes that do not have Kaiser in-line ball valves installed in the forward drain system. The commenter requests that, since the annual cost for this will be $8,064, the FAA should reconsider that requirement.

Another commenter asserts that compliance with the proposed rule will force airlines with good maintenance programs and high levels of ''blue ice'' awareness to spend money accomplishing repetitive leak tests that will not add any additional levels of safety to the aircraft or to people on the ground. The commenter further states that the additional ground time required to perform these tests will also complicate scheduling and hamper efforts to increase aircraft utilization. The FAA infers that the commenter is requesting that the FAA reconsider the cost impact of the proposed action.

The FAA acknowledges that the obligation to maintain aircraft in an airworthy condition is vital, but sometimes expensive. ''Blue ice''

frequently is not traceable to the particular airplane, operator, and waste system that produced it. Incidents of leakage usually are not reported; only the relatively serious leakage incidents become known to the FAA. Previous attempts to rely solely upon increased maintenance while using lower reliability hardware have not proven to be successful. Therefore, a system to prevent incidents of ''blue ice'' in the fleet must be based upon reduction of the number of incidents of leakage by encouraging the use of more reliable equipment, and requiring that, if an incident of leakage does occur, it is detected and corrected in a timely manner.

In addition, because AD's require specific actions to address specific unsafe conditions, they appear to impose costs that would not otherwise be borne by operators. However, because of the general obligation of operators to maintain aircraft in an airworthy condition, this appearance is deceptive. Attributing those costs solely to the issuance of this proposal is unrealistic because, in the interest of maintaining safe aircraft, prudent operators would accomplish the proposed actions even if they were not required to do so.

Request To Distinguish Risks Associated With Forward and Aft Lavatories Drain Systems

Two commenters note that the compliance times of the NPRM do not reflect a difference between risks associated with leakage from the forward lavatory drain system and the risks associated with leakage from the aft drain. One of the commenters asserts that operators who upgraded their forward lavatory systems to address the more significant safety concern over ice ingestion in engines would still be subject to the more stringent leak test intervals of the aft lavatory drain systems because of difficulties in redesigning and implementing retrofit of the aft lavatory drain systems. The commenters assert that the differences between the risks of leakage from the forward lavatory should be reflected by an adjustment to the proposed compliance times.

The FAA does not concur that the risks associated with either the forward or aft lavatories should be distinguished by an adjustment to the proposed compliance times of the NPRM. As discussed previously, ''blue ice'' detaching from the forward lavatory could cause damage to the engine and airframe, as well as present a hazard to persons on the ground; ''blue ice'' detaching from the aft lavatory presents a hazard to persons on the ground. Regardless of whether the formation of ''blue ice'' occurs on the forward or aft lavatory drain system, the resultant unsafe condition would exist. Even if the formation of ''blue ice'' on the aft lavatory drain systems may appear to be a less ''significant'' safety concern than the forward systems, a safety concern for those persons on the ground, nevertheless, still exists.

Request To Involve Principal Maintenance Inspectors (PMI)

This same commenter, in reference to paragraph (b) of the previous NPRM, contends that it is more appropriate for the PMI, rather than the Seattle Aircraft Certification Office (ACO) engineering staff, to approve subsequent changes to the maintenance program once the program has been approved. The commenter considers that the PMI is more qualified than the ACO staff to approve tasks on training, reporting, and adjustment to the leak test intervals based upon reliability program recommendations. The commenter points out that the subject matter of the rule is clearly maintenance-related, and the ACO staff is not equipped to effectively respond to requests for maintenance interval changes that may occur. The commenter states that paragraph (b) of the proposal should be revised to include a statement that the AD is no longer applicable once a revision to the FAA-approved maintenance program is implemented.

The FAA does not concur. Although the FAA agrees that the PMI should have oversight of most of the requirements of the proposed alternative maintenance program provision of the rule, the FAA does not agree that the PMI should be tasked with approving certain adjustments of the program. Failure threshold criteria and definitive leak/failure rate data do not exist for the majority of the subject valves; therefore, a PMI would have no data on which to base the approval of an extension of a leak test interval for many valves with the assurance that the valve would not fail within the adjusted interval. In light of this, it is essential that the FAA, at the ACO level, have feedback as to the leak and failure rates experienced in the field. Although the PMI's serve as the FAA's critical link with the operators (and the PMI oversight responsibilities will not be minimized by this AD action), it is the staff of the ACO that provides the engineering support necessary to evaluate whether increases in leak test intervals will maintain an acceptable level of safety.

Further, the FAA considers it essential that any adjustment of the required leak test intervals, seal change intervals, and data reporting procedures should be approved in a uniform manner to ensure that the program is administered uniformly (and appropriately) fleetwide. The staff of the Seattle ACO is in the best position to ensure that this is accomplished. Additionally, given that possible new relevant issues might be revealed during the approval process, it is imperative that the engineering staff at the ACO have such feedback. In any case, the ACO staff will work closely with the cognizant PMI to ensure that any approved revisions to this aspect of the maintenance program are appropriate and workable for the applicable airline.

Request To Increase Leak Test Intervals for Pneudraulics Drain Valves

Several commenters request that the leak test interval for Pneudraulics drain valve having part number (P/N) 9527–1 be increased from the proposed 1,000 flight hours. Two of the commenters requested the interval be increased to 2,000 flight hours; and one of the commenters, the valve manufacturer, requests that the interval be increased to 4,500 flight hours.

The FAA concurs partially. Since the issuance of the NPRM, the FAA has received new data regarding the in-service performance of the Pneudraulics 9527 series drain valve. The data was obtained in accordance with procedures similar to those of paragraphs (b) and (c) of this supplemental NPRM. This data revealed that, only two leak tests failures were detected during a total time of 847,927 hours on 412 Pneudraulics valves. In consideration of this data, the FAA finds that, for those operators who choose to comply with the requirements of paragraph (a) of the AD, this information justifies an increase of the leak test interval of Pneudraulics valves having P/N 9527 series from 1,000 hours to 2,000 hours. Additionally, the FAA finds that, for operators who choose to comply with the maintenance option of paragraph (b) of the AD, this information justifies an increase of the leak test interval of the Pneudraulics valves P/N 9527 series from 1,000 hours to 4,000 hours. Paragraphs (a) and (b) of this supplemental NPRM have been revised accordingly. However, if following the requirements of paragraphs (b) and (c) of this supplemental NPRM, similar data is gathered by a number of operators and are submitted to the FAA in support of an extension of the leak check interval for another type of valve, the FAA will consider extension of the leak check intervals for that valve for all operators using the valve.

Request To Increase Leak Test Intervals of Certain Other Shaw Valves

One commenter states that its fleet has a mixture of valves that have been modified in accordance with Shaw Service Bulletin SB 10101000B–38–1, and valves that have not been modified in accordance with that service bulletin. The operator requests that the currently proposed leak test interval of 600 flight hours (for the valves that have not been modified in accordance with the service bulletin) be increased to equal the 1,000 flight hour leak test interval of the valves modified in accordance with that service bulletin. Because of the operator's high level of awareness, it sees no safety compromise in requiring the unmodified valves to be leak tested at 1,000 flight hours.

The FAA does not concur. The modifications described by the subject service bulletin were designed to make the valves less likely to leak. Therefore, the leak test interval is permitted to be increased only for those valves that have been modified in accordance with Shaw Service Bulletin SB 1010000B–38–1.

Request To Increase Leak Test Interval for Other Shaw Valves

One commenter, a valve manufacturer, requests that the leak test interval for certain Shaw valves be extended from 1,000 flight hours to 2,000 flight hours when the maintenance procedures have been revised and data have been submitted to substantiate the increased interval.

The FAA concurs that when maintenance procedures have been revised and data have been submitted to substantiate the increased interval, approval may be granted to increase the leak test intervals. Under the provisions of this supplemental NPRM, an operator has the option of proposing a change to its maintenance program, gathering data, and making a request for extension of the leak test interval. Operators interested in this option should contact the Seattle Aircraft Certification Office to discuss implementation of this option before submitting the request to extend the leak test intervals. If a number of operators successfully follow this procedure and provide data similar to that provided for the Pneudraulics P/N 9527 series valve, the FAA will consider an ''across the board'' increase for extension of the leak check interval for the valve that they are using. This procedure is applicable to valve manufacturers as well.

Request To Increase Interval of Replacement of Pneudraulics Valve Seals

One commenter, an operator, requests that the replacements of the seals of the Pneudraulics valves be extended from the proposed ''prior to 5,000 flight hours after the effective date of the AD, and thereafter at intervals not to exceed 18 months,'' to replacement of the seal ''every third leak test of the drain system, or every 6,000 flight hours.'' The commenter states that implementation of the revised compliance times would provide a scheduling convenience, and would still maintain an acceptable level of safety.

The FAA concurs that the intervals for the repetitive replacements can be extended somewhat. Since the Pneudraulics valve seals are similar to those used in the in-line drain valves and replacement of those seals are approved for longer replacement intervals, the FAA has revised paragraphs (a)(1)(ii) and (b)(1)(ii) of this supplemental NPRM to require accomplishment of repetitive seal replacements at intervals not to exceed 18 months or 6,000 flight hours, whichever occurs later.

Request To Revise Compliance Times for Certain Seal Changes

One commenter, the airplane manufacturer, requests that the proposed rule be revised to provide for an alternative repetitive interval for accomplishment of the seal changes. Specifically, the commenter requests that, ''or within 48 months after the last documented seal change'' be added after the proposed repetitive interval of ''5,000 flight hours'' in paragraph (b)(1)(i) of the proposed rule. The commenter states that this alternative repetitive interval would prevent unnecessary seal changes for operators that have recently performed the seal change.

The FAA concurs that the requested alternative repetitive interval would prevent unnecessary seal changes for operators that have recently performed the seal change. The FAA considers that those alternative repetitive intervals provide an equivalent level of safety. Therefore, the FAA has revised paragraph (b)(3) of this supplemental NPRM (which appeared as paragraph (b)(1) of the previous proposal). The FAA also has made a corresponding change to paragraph (a)(8) of this supplemental NPRM since it is similar to the requirements of paragraph (b)(3) of the supplemental NPRM.

Request To Delete Certain Seal Part Numbers

One commenter, the airplane manufacturer, requests that valve seal part numbers 2651–329, 2651–334, 10101000C–G, 10101000C–M, and 1010000C–R be deleted from the proposal. The commenter considers that part numbers that have not been installed, either in production or retrofit, on Boeing Model 737 series airplanes should not be cited in the NPRM. The FAA concurs with the commenter's remarks, and has removed all references to those parts numbers from this supplemental NPRM.

Request To Mandate Leak Testing of All Seals in the Lavatory System

One commenter notes that, while the previous NPRM proposes leak testing of the dump valve seal and the inner seal of the drain valve of the service panel, no testing of the outer cap/door seal is required. The commenter states that since the outer cap/door seal is the ''last resort'' in preventing leakage of ''blue ice,'' leak testing should be required of the outer cap/door.

The FAA does not concur. Some valve designs are such that the valve must be partially disassembled (removing the inner seal, interlocking inner plugs, etc.) to allow the outer door to be tested, which would invalidate the test of the inner seal. Additionally, different valve designs may require valve disassembly and reassembly as part of the test procedure with different test procedures for different valve designs. These factors complicate the specification of a usable test of both inner and outer doors for all existing valve designs. Therefore, the FAA finds that the requirement to apply 3 PSID across the valve inner door and to visually inspect the outer door seal for damage that could cause leakage on all service panel valves to be adequate and appropriate. However, if an operator prefers to test the outer door and inspect the inner door, the FAA will consider requests for an alternative method of compliance as provided in paragraph (f) of this proposed AD.

Request To Require a Lever Lock Cap and a Vacuum Breaker Check Valve

One commenter states that, instead of permitting a vacuum breaker check valve to be used as an alternative to the installation of a lever lock cap, the FAA should require both of them. The commenter states that a long history of poor performance of check valves and lever lock caps indicates that a redundant system requiring both the valve and cap would have greater reliability.

The FAA does not concur in this case. The FAA acknowledges that redundant systems generally provide a higher level of safety; however, in this case, redundancy to the check valve function is provided by the vacuum breaker. In the case of a check valve alone, the lever lock cap provides redundancy to the check valve. There are insufficient data to show which combination is more reliable.

However, service history information indicates that vacuum breaker check valves with poppet check valves (rather than mushroom check valves) have a greater reliability record. Therefore, the FAA has removed reference to Monogram Part Number 3765–175 (mushroom type) from paragraphs (a) and (b) of this supplemental NPRM. By requiring repair of leaking components when ''blue streaks'' are observed, the FAA intends that operators, through their own experience, will determine which combination of valves works the best to avoid leakage. However, if the FAA receives data indicating service problems or unreliability with vacuum breaker check valves using poppet checks, the FAA may consider further rulemaking action.

Request To Revise Approvals of Certain Vacuum Breakers

Two commenters request that the approval of vacuum breakers, as referenced in the proposed rule, be revised. One commenter requests that reference to all Monogram part number series 3765–175 or 3765–190 series be deleted, and replaced with ''* * * an FAA-approved check valve with a vacuum breaker * * *,'' or replaced with a specific reference to valves having Shaw part number 301–0009–01. This commenter states that the vacuum breaker check valves leaked, and should not be provided as an alternative to installation of a lever lock cap on the flush/fill line. The other commenter requests that instead of specifying particular part numbers, the approval reference should be to ''* * * an FAA-approved vacuum break in the * * *.'' This commenter considers that this would cover all vacuum breaker manufacturers.

The FAA concurs partially. The FAA has reviewed available service history data and concluded that vacuum breaker check valves of the poppet type (such as Monogram part number series 3765–190) have fewer reports of leakage than the vacuum breaker test valves of the mushroom type (such as Monogram part number 3765–175). Therefore, as stated previously, the FAA has removed reference to Monogram part number 3765–175 as an approved valve from this supplemental NPRM.

The FAA also has reviewed the design of Shaw part number 301–0009–01, which is a vacuum breaker check valve of the poppet type, and has added it as an acceptable part number in paragraphs (a)(8)(ii) and (b)(3)(ii) of this supplemental NPRM.

Additionally, since the issuance of the previous NPRM, another acceptable valve for the flush/fill line has been certified. The installation of Kaiser Electroprecision flush/fill ball valve part number series 0062–0009 has been added to paragraphs (a)(8)(iii), (b)(3)(iii), and (d)(3) of this supplemental NPRM as an alternative method of preventing leakage from the flush/fill line.

Request To Shorten Leak Test Intervals of Flush/Fill Caps

The commenter states that there is no discussion in the proposal of what would prompt an airline to ensure flush/fill caps are installed in all positions prior to each flight. The commenter contends that it is common practice for caps to be removed from airplanes due to their nuisance value. The commenter also states that the flush/fill caps, as well as the lever lock caps, are difficult to operate and commonly have the seals removed, which render them inoperable on the airplane. The commenter considers the ease with which the seal is removed is a design flaw of the valve itself. Therefore, the commenter requests that another device be considered instead of the flush/fill caps that is not on the exterior of the aircraft and cannot be tampered with by ground maintenance personnel. The commenter notes that a device incorporated further upstream with positive shut-off and anti-siphon features would eliminate the ''blue ice'' that occurs at the flush/fill port. Therefore, the commenter requests that, until such a device can be developed and FAA-approved, the leak tests and inspections of this area should be performed more frequently.

The FAA does not concur with the commenter's request. The FAA does not consider it necessary to require an additional inspection to ensure installation of the flush/fill caps when they are installed in accordance with an AD. If, as the commenter asserts, cases of uninstalled flush/fill caps commonly occur, the FAA does not find that reason to assume that operators would continue that practice in the future if operation without the flush/fill caps would be a violation of an AD. Further, lever lock caps are specified by this supplemental NPRM precisely because they must be in the closed position to allow the service panel door to be closed. In addition, this supplemental NPRM specifies that if there is evidence of leakage, the leaking device must be corrected, or the lavatory drained and placarded inoperative. Therefore, if seals or caps are removed and result in leakage, this provision will ensure that the system is repaired before the lavatory is returned to service.

Additionally, the FAA notes that the vacuum break poppet type check valves specified in the previous NPRM can be used as an alternative to using lever lock caps. The FAA is not aware of any data, presently, that supports an increase or decrease in the leak test intervals of the devices on the flush/fill line. Consequently, this supplemental NPRM contains neither an increase nor a decrease in the leak test intervals of these devices. However, if such data becomes available that supports a decrease in the leak test intervals, the FAA may consider additional rulemaking.

Request To Revise the Leak Test of the Inner Door of the Service Panel Drain Valve

Several commenters request that the leak test of the inner door of the service panel drain be revised to require the test to be run with the outer door open when using a vacuum box so that the 3 PSID differential is applied across the inner door. One of these commenters, the airplane manufacturer, points out that if the outer door seal is good, the inner door seal will not reflect a pressure differential. For this reason, the FAA concurs. The FAA has revised the supplemental NPRM to specify that the test be run with the outer door open when using a vacuum box.

Request To Revise Testing of Drain Panel Valves

One commenter requests that testing of the drain valves cover both the inner door of the valve and the outer door/cap of the valve. The commenter also notes that some valves have their primary seals on the outer doors, not the inner doors, so that omitting the test of the outer door, as proposed in the NPRM, results in the primary seal of the valve being untested.

The FAA does not concur. As discussed previously in the request to mandate leak testing of all seals in the lavatory system, the FAA has revised the requirements of the leak testing of the drain valves of service panels to require applying 3 PSID across the valve inner door and visually inspecting the outer door seal for damage. This approach should adequately test valves with inner and outer doors. However, if

an operator elects to test the outer door and visually inspect the inner door, that operator should apply for approval of an alternative method of compliance under the provisions of paragraph (f) of this supplemental NPRM.

Request To Require Visual Inspection of the Outer Cap/Door

Two commenters request that paragraphs (a)(4) and (b)(2)(iii) of the proposal be revised to delete the requirement to perform a leak test of the outer door of ''donut'' type valves, and add a visual inspection of the outer doors instead. The commenters state that the ''donut'' valves are similar to other valves in that they provide two sealing surfaces. The commenters note that for those other valves, the proposal would require only a test of the inner door or the sealing surface.

The FAA concurs and has revised paragraphs (a)(4) and (b)(2)(iii) of this supplemental NPRM accordingly. In light of the fact that this supplemental NPRM would require eventually removing all ''donut'' valves and replacing them with FAA-approved valves, the FAA finds that, in the interim, a visual inspection of the outer doors, rather than a leak test, will ensure an acceptable level of safety.

Request To Require a Leak Test of the Outer Door of the Service Panel Drain

Another commenter states that since the FAA required it to perform the leak test of the outer door, the rules for testing the service panel drain should not be changed at this time. The commenter states that by requiring leak tests only of the inner door, the proposal provides an unfair competitive advantage in favor of its competitors because some valves have their primary seals on the outer doors instead of the inner doors. In addition, by not requiring a leak test of the outer door, the actual primary seal of the valve would not be tested.

The FAA does not concur with the request to require leak tests of the outer door seal. The FAA finds that performing a leak test of the inner door and visual inspections of the outer door provide an acceptable level of safety. However, if an operator chooses to test the outer door and visually inspect the inner door, under the provisions of paragraph (f) of this supplemental NPRM, that operator may request approval of an adjustment of this requirement if data are submitted to substantiate that such an adjustment would provide an acceptable level of safety.

Request To Extend Leak Test Intervals in Paragraph (b) of the Proposal

Several commenters state that the leak test intervals specified in paragraph (b) of the proposal should be relaxed so that operators would be encouraged to select it as an alternative to the accomplishment of the requirements of paragraph (a) of the proposal. One of the commenters states that this same request was made in response to the proposed rule concerning ''blue ice'' for Boeing Model 727 series airplanes, and that the FAA did not respond to that request. Several commenters assert that paragraph (b) of the proposal should additionally provide terminating action once an operator's FAA-approved maintenance plan has been incorporated.

The FAA does not concur with the commenters' request to increase the leak test intervals specified in paragraph (b) simply in order to encourage operators to choose that option. For the reasons specified previously under the ''General Changes to the Proposal: Revision of Optional Maintenance Program'' section of this supplemental NPRM, the FAA finds that the previously proposed terminating action must be deleted. Further, the expansion of leak test intervals that are included in paragraph (b) of this supplemental NPRM is primarily related to the reliability of the waste drain valves involved. The additional requirements of paragraph (b) provide assurance that expansion of the intervals will not result in significant leakage events in the time between the leak tests. The FAA included paragraph (b) of this supplemental NPRM not only because it does contain certain ''attractive'' features, but also to provide a format for verifiable empirical data to serve as a reliability indicator for the waste drain valves. To date, three operators have opted to follow requirements similar to those provided in paragraph (b) of this supplemental NPRM. The FAA concludes, therefore, that compliance with the optional provisions of paragraph (b) of this supplemental NPRM is of value to some operators.

Additionally, in reviewing the preamble of AD 94–23–10 (applicable to Boeing Model 727 series airplanes), the FAA finds that the commenter's request regarding the leak test intervals of paragraph (b) of that AD was specifically addressed in the final rule. The FAA's response noted the revision of several requirements of paragraph (b) of that final rule to make it more ''attractive'' to operators; certain of those revised requirements included extended leak test intervals for some valves.

Request To Revise Leak Test Intervals for Service Panel Drain Valves

The airplane manufacturer requests that paragraph (b)(2)(ii) of the proposal be revised to increase the replacement interval of the service panel drain valves from 1,000 flight hours to 2,000 flight hours. The commenter states that increasing this interval would not decrease the level of safety because of other requirements of paragraph (b) of the proposal. Further, the commenter notes that two alternative methods of compliance have been granted to increase the interval to 2,000 flight hours.

The FAA does not concur with the commenter's request to increase the leak test interval ''across the board'' for service panel drain valves at this time. However, if data are submitted for specific service panel drain valves in accordance with the data gathering requirements of paragraph (b) of this supplemental NPRM, the FAA will review the data and may consider extending the leak test intervals accordingly. If a number of operators have successfully accomplished such programs, the FAA will evaluate all the data submitted for a particular valve and consider an ''across the board'' extension of the leak test interval.

Request for Clarification of Compliance Times

The airplane manufacturer requests that compliance times in paragraph (b)(4) of the proposal be revised. That proposed compliance time is currently specified as ''* * * at intervals not to exceed 4 calendar days or 45 flight hours, whichever occurs later.'' The commenter requests that the phrase ''not to exceed'' be deleted and replaced with the word ''of.'' The manufacturer states that the phrase ''not to exceed'' appears to be in conflict with the phrase ''* * * whichever occurs later.'' Therefore, the manufacturer suggests revising the compliance time to read ''at intervals of 4 calendar days or 45 flight hours, whichever occurs later.''

The FAA does not concur that the phrases are in conflict with each other. The phrases ''at intervals not to exceed 4 calendar days or 45 flight hours, whichever occurs later'' are standard phrasing the FAA uses routinely in providing certain compliance times. The phrase, ''not to exceed,'' allows accomplishment of the required action at frequencies less than the specified intervals. The phrase, ''whichever occurs later,'' allows an operator to select the means of measuring the

interval that results in less frequent accomplishment of the required actions, depending upon the operator's individual utilization rates. Therefore, no change of compliance time is required to paragraph (b)(4) of the supplemental NPRM.

Request To Incorporate Paragraph (b) Into Paragraph (f) of the Proposal

One commenter considers that the provisions in paragraph (b) of the NPRM are merely guidelines for submitting alternative methods of compliance. Therefore, the commenter requests that paragraph (b) of the proposal be incorporated into the paragraph that specifically addresses alternative methods of compliance [paragraph (f) of the proposal].

The FAA does not concur. The maintenance option provided by paragraph (b) of this supplemental NPRM provides for the acquisition of data that are required to justify extending leak test intervals. Compliance with paragraph (b) of the supplemental NPRM is an approved method of establishing empirical data on valve reliability. The FAA sees no added value in changing the paragraph numbering of the proposal. Moreover, the FAA considers that a change in the numbering of the paragraphs would have the potential for added confusion since an existing AD for the Boeing Model 727 series airplanes concerning ''blue ice'' also has paragraph (b) designated as the maintenance option.

Request To Revise Test Requirements for Flush/Fill Line Anti-Siphon Valves

The airplane manufacturer requests that paragraph (b)(3) of the proposal be revised from ''Thereafter, repeat the requirements at intervals not to exceed 5,000 flight hours'' to ''Thereafter, repeat the requirements at intervals not to exceed 5,000 flight hours or 24 months.'' The commenter notes that the paragraph would then be consistent with the test requirements of the in-line drain valve in paragraph (b)(2)(i) of the proposal.

The FAA does not concur. The compliance times for testing the in-line drain valves specified in paragraph (b)(2)(i) of the supplemental NPRM were based on supportive data to justify those times. The FAA has not received data justifying a similar compliance time for the flush/fill line anti-siphon valve.

Request To Clarify Table 1 of the Proposal

One commenter, a valve manufacturer, requests that specific Shaw Aero valves approved for a leak test interval of 1,000 flight hours be clarified. The FAA has revised Table 1 of this supplemental NPRM to clarify specifically which Shaw valves have been approved for use on Boeing Model 737 series airplanes.

Request To Base Leak Test Intervals for Valves on Valve Quality

One commenter states that it is more important to use a quality valve than a ''maintenance program'' to ensure reliability. The commenter asserts that maintenance programs should be required of all airlines, so that leak test intervals would be based on the quality and performance of the hardware.

The FAA does not concur that claims of valve quality should be the only basis for determining leak test intervals, or that all operators should be required to follow the requirements of the optional maintenance program [paragraph (b) of the supplemental NPRM]. Extension of the leak test interval is based primarily upon hardware reliability, as stated elsewhere in this supplemental NPRM. However, verification of the actual reliability of the hardware is difficult to determine. Review of maintenance data that is obtained through the maintenance program and verified by FAA Flight Standards plays a major role in determining the extension of leak test intervals. Although valve manufacturers and some operators claim that the hardware and systems currently in service are providing adequate levels of safety, incidents of ''blue ice'' continue to occur.

Since leakage from the waste system is not a reportable event according to part 21 of the Federal Aviation Regulations (14 CFR part 21), the FAA included the provisions of paragraph (b) of the proposal to make leakage from the waste system a reportable event. Those operators who choose to compile that data will have documented information to submit to the FAA as a basis for increasing leak test intervals. As stated earlier, the FAA has already used this program to extend the leak test interval for a certain valve.

With regard to the commenter's statement that all operators should be required to follow a maintenance program, the FAA has incorporated requirements to periodically change valve seals and correct any leakage found in accordance with paragraph (a) of this supplemental NPRM. The more extensive requirements of the maintenance program specified in paragraph (b) of the supplemental NPRM provide assurance that significant leakage will not occur during the expanded leak test intervals.

Request To Increase Certain Leak Test Intervals

The ATA asserts that leak test intervals of every 200 flight hours for certain drain system valves cannot be justified based on safety concerns with ''blue ice.'' The ATA requests that those leak test intervals be extended.

The FAA does not concur. The current leak test interval for certain drain system valves is every 200 flight hours, as required by AD 89–11–03. Nevertheless, the FAA has continued to receive reports of damage to airplanes. The FAA intends to increase the leak test interval only for those valves documented to be reliable, in accordance with the proposed requirements of this supplemental NPRM.

Request for Definition of ''Vent Line''

Another operator requests that the term ''vent line'' be defined specifically. The commenter questions if ''vent line'' as cited in the proposed AD refers only to the portion of the line shown on the Monogram check valve.

The FAA acknowledges that clarification is necessary. The vent line vacuum breaker is that portion of the valve and vent line that functions as a vacuum breaker, as opposed to the part of the valve performing a ''check valve'' function. The intent of the previous NPRM was to perform maintenance on the vacuum breaker check valve and ensure that the vacuum break feature operates correctly. For clarification purposes, reference to the term ''vent line'' has been removed from this supplemental NPRM, and the applicable paragraphs have been revised to reference a ''vent line vacuum breaker.''

Request To Revise Reference to Service Information

The airplane manufacturer advised that the correct service bulletins that should be cited in paragraph (f)(2) of the proposal are Boeing Service Bulletins 737–38–1026 (lavatory A), and 737–38–1031 (lavatory F). Those service bulletins describe alternative methods of compliance with the requirements of only paragraph (a)(2) of the supplemental NPRM. The FAA inadvertently cited an incorrect service bulletin in the previous NPRM; the supplemental NPRM has been revised to cite the correct service bulletins.

Request To Change Reference to Certain Drain System Valves

One commenter requests that the description of the ''donut'' valves in paragraphs (a)(4) and (b)(2)(iii) of the NPRM be expanded to read, ''For each lavatory drain system that incorporates

''donut'' plugs (Kaiser Electroprecision, part number 4259–20 or 4259–31), or FAA-approved equivalent, or incorporates Kaiser Electroprecision cap/flange, part numbers * * *.'' The FAA concurs, and has revised paragraphs (a)(6) and (b)(2)(iv) of this supplemental NPRM [which appeared as paragraphs (a)(4) and (b)(2)(iii), respectively, of the previous NPRM] to provide clarification concerning the specific ''donut'' valves, as suggested by the commenter.

Request To Revise Notes 3 and 5 of the Proposal

The airplane manufacturer requests that Notes 3 and 5 of the NPRM be corrected to reference Boeing Maintenance Manual Section 38–32–00/501 instead of the currently referenced Boeing service letter.

The FAA acknowledges that Boeing Maintenance Manual Section 38–32–00/501 is the appropriate guidance for the testing, and has revised Note 3 of this supplemental NPRM accordingly. However, since reference to guidance for performing leak tests specifically addressed in Note 5 of the previous NPRM is no longer necessary or applicable, it has been removed from this supplemental NPRM. (Note 5 of this supplemental NPRM now contains information unrelated to NOTE 5 of the previous NPRM.)

Request To Delete Reference to Development of Future In-Line Drain Valves

One commenter, a valve manufacturer, requests that reference to the development of future in-line drain valves that would provide for possible terminating action be deleted from the proposal since that statement may mislead airlines and other interested parties to think that development and approval of those valves is currently in progress. The commenter states that the NPRM is a place for facts, not supposition of what might be. The commenter further states that it believes it has been ''damaged'' by mention of a future valve, specifically when the FAA has not considered existing in-service data concerning the reliability of this manufacturer's valves.

The FAA acknowledges the commenter's request. The FAA has removed reference to current in-line drain valves, as well as possible future development of those valves, from consideration as terminating action for certain requirements of this supplemental NPRM. As discussed previously in the preamble of this supplemental NPRM, the FAA has determined that terminating action for the leak testing of the in-line valves under an approved maintenance program is no longer appropriate, based on recent reports of leakage of drain systems with in-line drain valves installed.

In addition, it is common practice for the FAA to provide information in NPRM's concerning possible development and approval of various corrective actions. For example, in certain cases, compliance times for corrective actions are based on a time frame that is determined to be adequate in order to develop, approve, and install such corrective actions, e.g., repair, parts, or modifications. Establishment of a reasonable compliance time enables the manufacturer to plan its schedules and resources so that the corrective action is made available to the airlines well within the compliance time established by an AD. For these reasons, the FAA finds that the development and approval of future parts, repair, or modifications are not only relevant to discussions in proposed rules, they are, in certain cases, inherent to the discussion itself.

Economic Impact

There are approximately 2,410 Model 737 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 1,031 airplanes of U.S. registry and 110 U.S. operators would be affected by this proposed AD.

The proposed waste drain system leak test and outer cap inspection would take approximately 6 work hours per airplane to accomplish, at an average labor rate of $60 per work hour. Based on these figures, the cost impact on U.S. operators of these proposed requirements of this AD is estimated to be $371,160, or $360 per airplane, per test/inspection.

Certain airplanes (i.e., those that have ''donut'' type drain valves installed) may be required to be leak tested as many as 15 times each year. Certain other airplanes having other valve configurations would be required to be leak tested as few as 3 times each year. Some airplanes that have various combinations drain valves installed would require approximately 2 leak tests of one drain valve and 3 leak tests of the other drain valve each year. Based on these figures, the annual (recurring) cost impact of the required repetitive leak tests on U.S. operators is estimated to be between $1,080 and $5,400 per airplane per year.

With regard to replacement of ''donut'' type drain valves, the cost of a new valve is approximately $1,200. However, the number of leak tests for an airplane that is flown an average of 3,000 flight hours a year is thereby reduced from 15 tests to 3 tests. The cost reduction because of the number of tests required is approximately equal to the cost of the replacement valve. Therefore, no additional cost is incurred because of this change.

The FAA estimates that it would take approximately 1 work hour per airplane lavatory drain to accomplish a visual inspection of the service panel drain valve cap/door seal and seal mating surfaces, at an average labor cost of $60 per work hour. As with leak tests, certain airplanes would be required to be visually inspected as many as 15 times or as few as 3 times each year. Based on these figures, the annual (recurring) cost impact of the required repetitive visual inspections on U.S. operators is estimated to be between $180 and $900 per airplane per year.

The proposed installation of the flush/fill line cap would take approximately 1 work hour per cap to accomplish, at an average labor rate of $60 per work hour. The cost of required parts would be $275 per cap. There are an average of 2.5 caps per airplane. Based on these figures, the cost impact on U.S. operators of these proposed requirements of this AD is estimated to be $863,463, or $838 per airplane.

The addition of the seal change requirement to paragraph (a) will require approximately 2 work hours to accomplish, at an average labor cost of $60 per hour. The cost of required parts would be $200 per each seal change. Based on these figures, the cost impact on U.S. operators of these proposed requirements of this AD is estimated to be $329,920, or approximately $320 per airplane per year.

The number of required work hours, as indicated above, is presented as if the accomplishment of the actions proposed in this AD were to be conducted as ''stand alone'' actions. However, in actual practice, these actions could be accomplished coincidentally or in combination with normally scheduled airplane inspections and other maintenance program tasks. Therefore, the actual number of necessary ''additional'' work hours would be minimal in many instances. Additionally, any costs associated with special airplane scheduling should be minimal.

In addition to the costs discussed above, for those operators who elect to comply with proposed paragraph (b) of this proposed AD action, the FAA estimates that it would take approximately 40 work hours per operator to incorporate the lavatory drain system leak test procedures into the maintenance programs, at an average

labor cost of $60 per work hour. Based on these figures, the cost impact of the proposed maintenance revision requirement of this AD action on the 110 U.S. operators is estimated to be $264,000, or $2,400 per operator.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the current or proposed requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted.

The FAA recognizes that the obligation to maintain aircraft in an airworthy condition is vital, but sometimes expensive. Because AD's require specific actions to address specific unsafe conditions, they appear to impose costs that would not otherwise be borne by operators. However, because of the general obligation of operators to maintain aircraft in an airworthy condition, this appearance is deceptive. Attributing those costs solely to the issuance of this AD is unrealistic because, in the interest of maintaining safe aircraft, prudent operators would accomplish the required actions even if they were not required to do so by the AD.

A full cost-benefit analysis has not been accomplished for this proposed AD. As a matter of law, in order to be airworthy, an aircraft must conform to its type design and be in a condition for safe operation. The type design is approved only after the FAA makes a determination that it complies with all applicable airworthiness requirements. In adopting and maintaining those requirements, the FAA has already made the determination that they establish a level of safety that is cost-beneficial. When the FAA, as in this proposed AD, makes a finding of an unsafe condition, this means that the original cost-beneficial level of safety is no longer being achieved and that the required actions are necessary to restore that level of safety. Because this level of safety has already been determined to be cost-beneficial, a full cost-benefit analysis for this proposed AD would be redundant and unnecessary.

Regulatory Impact

The regulations proposed herein 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. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation (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) if promulgated, 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. A copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption **ADDRESSES**.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by removing amendment 39–6223 (54 FR 21933, May 22, 1989), and by adding a new airworthiness directive (AD), to read as follows:

Boeing: Docket 95–NM–111–AD. Supersedes AD 89–11–03, Amendment 39–6223.

Applicability: All Boeing Model 737 series 100, 200, 300, 400 and 500 airplanes, certificated in any category.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (f) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent engine damage, airframe damage, and/or hazard to persons or property on the ground as a result of ''blue ice'' that has formed from leakage of the lavatory drain system or flush/fill systems and dislodged from the airplane, accomplish the following:

(a) Except as provided by paragraph (b) of this AD, accomplish the applicable requirements of paragraphs (a)(1) through (a)(9) of this AD at the time specified in each paragraph. If the waste drain system incorporates more than one type of valve, only one of the waste drain system leak test procedures (the one that applies to the equipment with the longest leak test interval) must be conducted at each service panel location. The waste drain system valve leak tests specified in this AD shall be performed in accordance with the following requirements: fluid shall completely cover the upstream end of the valve being tested; the direction of the 3 pounds per square inch differential pressure (PSID) shall be applied across the valve in the same direction as occurs in flight; the other waste drain system valves shall be open; and the minimum time to maintain the differential pressure shall be 5 minutes. Any revision of the seal change intervals or leak test intervals must be approved by the Manager, Seattle Aircraft Certification Office (SACO), FAA, Transport Airplane Directorate.

(1) Replace the valve seals in accordance with the applicable schedule specified in paragraphs (a)(1)(i), (a)(1)(ii), and (a)(1)(iii) of this AD.

(i) For each lavatory drain system that has an in-line drain valve installed, Kaiser Electroprecision part number series 2651–278: Replace the seals within 5,000 flight hours after the effective date of this AD, or within 48 months after the last documented seal change, whichever occurs later. Thereafter, repeat the replacement of the seals at intervals not to exceed 48 months.

(ii) For each lavatory drain system that has a Pneudraulics part number series 9527 valve: Replace the seals within 5,000 flight hours after the effective date of this AD, or within 18 months of the last documented seal change, whichever occurs later. Thereafter, repeat the replacement of the seals at intervals not to exceed 18 months or 6,000 flight hours, whichever occurs later.

(iii) For each lavatory drain system that has any other type of drain valve: Replace the seals within 5,000 flight hours after the effective date of this AD, or within 18 months after the last documented seal change, whichever occurs later. Thereafter, repeat the replacement of the seals at intervals not to exceed 18 months.

(2) For each lavatory drain system that has an in-line drain valve installed, Kaiser Electroprecision part number series 2651–278: Within 4,500 flight hours after the effective date of this AD, and thereafter at intervals not to exceed 4,500 flight hours, accomplish the procedures specified in paragraphs (a)(2)(i) and (a)(2)(ii) of this AD:

(i) Conduct a leak test of the toilet tank dump valve (in-tank valve that is spring loaded closed and operable by a T-handle at the service panel) and the in-line drain valve. The toilet tank dump valve leak test must be performed by filling the toilet tank with a minimum of 10 gallons of water/rinsing fluid and testing for leakage after a period of 5 minutes. Take precautions to avoid

overfilling the tank and spilling fluid into the airplane. The in-line drain valve leak test must be performed with a minimum of 3 PSID applied across the valve.

(ii) If a service panel valve or cap is installed, perform a visual inspection of the service panel drain valve outer cap/door seal and the inner seal (if the valve has an inner door with a second positive seal), and the seal mating surfaces for wear or damage that may allow leakage.

(3) For each lavatory drain system that has a service panel drain valve installed, Pneudraulics part number series 9527: Within 2,000 flight hours after the effective date of this AD, accomplish the requirements of paragraphs (a)(3)(i) and (a)(3)(ii) of this AD. Thereafter, repeat the leak tests at intervals not to exceed 2,000 flight hours.

(i) Conduct leak tests of the toilet tank dump valve and service panel drain valve. The toilet tank dump valve leak test must be performed by filling the toilet tank with a minimum of 10 gallons of water/rinsing fluid and testing for leakage after a period of 5 minutes. Take precautions to avoid overfilling the tank and spilling fluid into the airplane. The leak test of the service panel drain valve must be performed with a minimum of 3 PSID applied across the valve inner door/closure device.

(ii) Perform a visual inspection of the outer cap/door and seal mating surface for wear or damage that may cause leakage.

(4) For each lavatory drain system that has a service panel drain valve installed, Kaiser Electroprecision part number series 0218–0032 or Shaw Aero part number/serial number as listed in Table 1 of this AD: Within 1,000 flight hours after the effective date of this AD, and thereafter at intervals not to exceed 1,000 flight hours, accomplish the requirements of paragraphs (a)(4)(i) and (a)(4)(ii) of this AD:

TABLE 1.—SHAW AERO VALVES APPROVED FOR 1,000 FLIGHT HOUR LEAK TEST INTERVAL

Shaw waste drain valve part no.	Serial Nos. of part number valve approved for 1,000-hour leak test interval
331 Series, 332 Series	All.
10101000B–A	None.
10101000B–A–1	0207–0212, 0219, 0226 and higher.
10101000BA2	0130 and higher.
10101000C–A–1	0277 and higher.
10101000C–J	None.
10101000C–J–2	None.
10101000CN OR C–N	3649 and higher.
Certain 10101000B valves	Any of these ''B'' series valves that incorporate the improvements of Shaw Service Bulletin 10101000B–38–1, dated October 7, 1994, and are marked ''SBB38–1–58''.
Certain 10101000C valves	Any of these ''C'' series valves that incorporate the improvements of Shaw Service Bulletin 10101000C–38–2 dated October 7, 1994, and are marked ''SBC38–2–58''.

Note 2: Table 1 is a comprehensive list of all approved Shaw Valves, including those valves approved by Parts Manufacturer Approval (PMA) or Supplemental Type Certificate (STC) for installation on Boeing Model 737 series airplanes.

(i) Conduct a leak test of the toilet tank dump valve and service panel drain valve. The toilet tank dump valve leak test must be performed by filling the toilet tank with a minimum of 10 gallons of water/rinsing fluid and testing for leakage after a period of 5 minutes. Take precautions to avoid overfilling the tank and spilling fluid into the airplane. The service panel drain valve leak test must be performed with a minimum of 3 PSID applied across the valve inner door/closure device.

(ii) Perform a visual inspection of the outer cap/door and seal mating surface for wear or damage that may cause leakage.

(5) For each lavatory drain system that has a service panel drain valve installed, Kaiser Electroprecision part number series 0218–0026; or Shaw Aero Devices part number series 10101000B or 10101000C [except as specified in paragraph (a)(4) of this AD]: Within 600 flight hours after the effective date of this AD, and thereafter at intervals not to exceed 600 flight hours, accomplish the requirements of paragraphs (a)(5)(i) and (a)(5)(ii) of this AD:

(i) Conduct a leak test of the dump valve and the service panel drain valve. The leak test of the dump valve must be performed by filling the toilet tank with a minimum of 10 gallons of water/rinsing fluid and testing for leakage after a period of 5 minutes. Take precautions to avoid overfilling the tank and spilling fluid on the airplane. The service panel drain valve leak test must be performed with a minimum 3 PSID applied across the valve inner door/closure device.

(ii) Perform a visual inspection of the outer cap/door and seal mating surface for wear or damage that may cause leakage.

(6) For each lavatory drain system with a lavatory drain system valve that incorporates either ''donut'' plug, Kaiser Electroprecision part number 4259–20 or 4259–31; Kaiser Roylyn/Kaiser Electroprecision cap/flange part numbers 2651–194C, 2651–197C, 2651–216, 2651–219, 2651–235, 2651–256, 2651–258, 2651–259, 2651–260, 2651–275, 2651–282, 2651–286; or other FAA-approved equivalent parts; accomplish the requirements at the specified times of paragraphs (a)(6)(i), (a)(6)(ii), and (a)(6)(iii) of this AD. For the purposes of this paragraph [(a)(6)], ''equivalent part'' means either a ''donut'' plug that mates with the cap/flange having part numbers listed in this paragraph, or a cap/flange that mates with the ''donut'' plug having part numbers listed in this paragraph, such that the cap/flange and ''donut'' plug are used together as an assembled valve.

(i) Within 200 flight hours after the effective date of this AD, and thereafter at intervals not to exceed 200 flight hours, conduct leak tests of the toilet tank dump valve and the service panel drain valve. The leak test of the toilet tank dump valve must be performed by filling the toilet tank with a minimum of 10 gallons of water/rinsing fluid and testing for leakage after a period of 5 minutes. Take precautions to avoid overfilling the tank and spilling fluid on the airplane. The service panel drain valve leak test must be performed with a minimum 3 PSID applied across the valve inner door/closure device.

(ii) Perform a visual inspection of the outer door/cap and seal mating surface for wear or damage that may cause leakage. This inspection shall be accomplished in conjunction with the leak tests of paragraph (a)(6)(i).

(iii) Within 5,000 flight hours after the effective date of this AD, replace the donut valve (part numbers per paragraph (a)(6) of this AD) with another type of FAA-approved valve. Following installation of the replacement valve, perform the appropriate leak tests and seal replacements at the intervals specified for that replacement valve, as applicable.

(7) For each lavatory drain system not addressed in paragraph (a)(2), (a)(3), (a)(4), (a)(5), and (a)(6) of this AD: Within 200 flight hours after the effective date of this AD, and thereafter at intervals not to exceed 200 flight hours, accomplish the requirements of paragraphs (a)(7)(i) and (a)(7)(ii) of this AD:

(i) Conduct a leak test of the toilet tank dump valve and the service panel drain valve. The toilet tank dump valve leak test must be performed by filling the toilet tank with a minimum of 10 gallons of water/rinsing fluid and testing for leakage after a period of 5 minutes. Take precautions to avoid overfilling the tank and spilling fluid on the airplane. The service panel drain valve leak test must be performed with a minimum 3 PSID applied across the valve inner door/closure device.

(ii) Perform a visual inspection of the outer cap/door and seal mating surface for wear or damage that may cause leakage.

(8) For flush/fill lines: Within 5,000 flight hours after the effective date of this AD, perform the requirements of paragraph (a)(8)(i), (a)(8)(ii), or (a)(8)(iii) of this AD, as applicable. Thereafter, repeat the requirements at intervals not to exceed 5,000 flight hours, or 48 months after the last documented seal change, whichever occurs later.

(i) If a lever lock cap is installed on the flush/fill line of the subject lavatory, replace the seals on the toilet tank anti-siphon (check) valve and the flush/fill line cap. Perform a leak test of the toilet tank anti-siphon (check) valve with a minimum of 3 PSID across the valve, in accordance with paragraph (a)(8)(ii)(A) of this AD, as applicable.

Note 3: The leak test procedure described in Boeing Maintenance Manual, 38–32–00/501, may be referred to as guidance for this test if the toilet tank is filled to the level specified in paragraph (a)(8)(ii)(A) of this AD.

(ii) If a vacuum breaker check valve, Monogram part number series 3765–190, or Shaw Aero Devises part number series 301–0009–01 is installed on the subject lavatory, replace the seals/o-rings in the valve. Perform a leak test of the vacuum breaker check valve and verify proper operation of the vent line vacuum breaker in accordance with paragraphs (a)(8)(ii)(A) and (a)(8)(ii)(B) of this AD.

(A) Leak test the toilet tank anti-siphon valve or the vacuum breaker check valve by filling the toilet tank with water/rinsing fluid to a level such that the bowl is approximately half full (at least 2 inches above the flapper in the bowl.) Apply 3 PSID across the valve in the same direction as occurs in flight. The vent line vacuum breaker on vacuum breaker check valves must be pinched closed or plugged for this leak test. If there is a cap/valve at the flush/fill line port, the cap/valve must be removed/open during the test. Check for leakage at the flush/fill line port for a period of 5 minutes.

(B) Verify proper operation of the vent line vacuum breaker by filling the tank and testing at the fill line port for back drainage after disconnecting the fluid source from the flush/fill line port. If back drainage does not occur, replace the vent line vacuum breaker or repair the vacuum breaker check valve in accordance with the component maintenance manual to obtain proper back drainage. As an alternative to the above test technique, verify proper operation of the vent line vacuum breaker in accordance with the procedures of the applicable component maintenance manual.

(iii) If a flush/fill ball valve, Kaiser Electroprecision part number series 0062–0009 is installed on the flush/fill line of the subject lavatory, replace the seals in the flush/fill ball valve and the toilet tank anti-siphon valve. Perform a leak test of the toilet tank anti-siphon valve with a minimum of 3 PSID across the valve, in accordance with paragraph (a)(8)(ii)(A) of this AD.

(9) As a result of the leak tests and inspections required by paragraph (a) of this AD, or if evidence of leakage is found at any other time, accomplish the requirements of paragraph (a)(9)(i), (a)(9)(ii), or (a)(9)(iii), as applicable.

(i) If a leak is discovered, prior to further flight, repair the leak. Prior to further flight after repair, perform the appropriate leak test, as applicable. Additionally, prior to returning the airplane to service, clean the surfaces adjacent to where the leakage occurred to clear them of any horizontal fluid residue streaks; such cleaning must be to the extent that any future appearance of a horizontal fluid residue streak will be taken to mean that the system is leaking again.

Note 4: For purposes of this AD, ''leakage'' is defined as any visible leakage, if observed during a leak test. At any other time (than during a leak test), ''leakage'' is defined as the presence of ice in the service panel, or horizontal fluid residue streaks/ice trails originating at the service panel. The fluid residue is usually, but not necessarily, blue in color.

(ii) If any worn or damaged seal is found, or if any damaged seal mating surface is found, prior to further flight, repair or replace it in accordance with the valve manufacturer's maintenance manual.

(iii) In lieu of performing the requirements of paragraph (a)(9)(i) or (a)(9)(ii): Prior to further flight, drain the affected lavatory system and placard the lavatory inoperative until repairs can be accomplished.

(b) As an alternative to the requirements of paragraph (a) of this AD, operators may revise the FAA-approved maintenance program to include the requirements specified in paragraphs (b)(1) through (b)(7) of this AD. However, until the FAA-approved maintenance program is so revised, operators must accomplish the requirements of paragraph (a) of this AD. The waste drain system valve leak tests specified in this AD shall be performed in accordance with the following requirements: fluid shall completely cover the upstream end of the valve being tested; the direction of the 3 pounds per square inch differential pressure (PSID) shall be applied across the valve in the same direction as occurs in flight; the other waste drain system valves shall be open; and the minimum time to maintain the differential pressure shall be 5 minutes. Any revision of the seal change intervals or leak test intervals must be approved by the Manager, Seattle ACO.

(1) Replace the valve seals in accordance with the applicable schedule specified in paragraphs (b)(1)(i), (b)(1)(ii), or (b)(1)(iii) of this AD.

(i) For each lavatory drain system that has an in-line drain valve installed, Kaiser Electroprecision part number series 2651–278: Replace the seals within 5,000 flight hours after the effective date of this AD, or within 48 months of the last documented seal change, whichever occurs later. Thereafter, repeat the replacement of the seals at intervals not to exceed 48 months.

(ii) For each lavatory drain system that has a Pneudraulics part number series 9527 valve: Replace the seals within 5,000 flight hours after the effective date of this AD, or within 18 months of the last documented seal change, whichever occurs later. Thereafter, repeat the replacement of the seals at intervals not to exceed 18 months or 6,000 flight hours, whichever occurs later.

(iii) For each lavatory drain system that has any other type of drain valve: Replace the seals within 5,000 flight hours after the effective date of this AD, or within 18 months of the last documented seal change, whichever occurs later. Thereafter, repeat the replacement of the seals at intervals not to exceed 18 months.

(2) Conduct periodic leak tests of the lavatory drain systems in accordance with the applicable schedule specified in paragraphs (b)(2)(i), (b)(2)(ii), (b)(2)(iii), (b)(2)(iv), and (b)(2)(v) of this AD. Only one of the waste drain system leak test procedures (the one that applies to the equipment with the longest leak test interval) must be conducted at each service panel location.

(i) For each lavatory drain system, that has an in-line drain valve installed, Kaiser Electroprecision part number series 2651–278: Within 5,000 flight hours after the effective date of this AD, or within 5,000 hours of the last documented leak test, whichever occurs later, accomplish the procedures specified in paragraphs (b)(2)(i)(A) and (b)(2)(i)(B) of this AD. Thereafter repeat the procedures at intervals not to exceed 24 months or 5,000 flight hours, whichever occurs later.

(A) Conduct a leak test of the dump valve (in-tank valve that is spring loaded closed and operable by a T-handle at the service panel) and the in-line drain valve. The leak test of the toilet tank dump valve must be performed by filling the toilet tank with a minimum of 10 gallons of water/rinsing fluid and testing for leakage after a period of 5 minutes. Take precautions to avoid overfilling the tank and spilling fluid on the airplane. The in-line drain valve leak test must be performed with a minimum of 3 PSID applied across the valve.

(B) If a service panel valve or cap is installed, perform a visual inspection of the service panel drain valve outer cap/door seal and the inner seal (if the valve has an inner door with a second positive seal), and the seal mating surfaces, for wear or damage that may allow leakage.

(ii) For each lavatory drain system that has a service panel drain valve installed, Pneudraulics part number series 9527: Within 4,000 flight hours after the effective date of this AD, or within 4,000 flight hours of the last documented leak test, whichever occurs later, accomplish the requirements of paragraph (b)(2)(ii)(A) and (b)(2)(ii)(B) of this AD. Thereafter, repeat the requirements at intervals not to exceed 4,000 flight hours.

(A) Conduct leak tests of the toilet tank dump valve and service panel drain valve. The toilet tank dump valve leak test must be performed by filling the toilet tank with a minimum of 10 gallons of water/rinsing fluid and testing for leakage after a period of 5 minutes. Take precautions to avoid overfilling the tank and spilling fluid on the airplane. The service panel drain valve leak test must be performed with a minimum of 3 PSID applied across the valve inner door/closure device.

(B) Perform a visual inspection of the outer cap/door and seal mating surface for wear or damage that may cause leakage.

(iii) For each lavatory drain system that has a service panel drain valve installed, Kaiser Electroprecision part number series 0218–0032, or Kaiser Electroprecision part number series 0218–0026, or Shaw Aero Devices part number series 10101000B, 10101000C, 331-series, 332-series: Within 1,000 flight hours after the effective date of this AD, or within 1,000 flight hours of the last documented leak test, whichever occurs later, accomplish the requirements of paragraphs (b)(2)(iii)(A) and (b)(2)(iii)(B) of this AD. Thereafter, repeat the requirements at intervals not to exceed 1,000 flight hours.

(A) Conduct leak tests of the toilet tank dump valve and service panel drain valve. The toilet tank dump valve leak test must be performed by filling the toilet tank with a minimum of 10 gallons of water/rinsing fluid and testing for leakage after a period of 5 minutes. Take precautions to avoid overfilling the tank and spilling fluid on the airplane. The service panel drain valve leak test must be performed with a minimum of 3 PSID applied across the valve inner door/closure device.

(B) Perform a visual inspection of the outer cap/door and seal mating surface for wear or damage that may cause leakage.

(iv) For each lavatory drain system with a lavatory drain system valve that incorporates either ''donut'' plugs Kaiser Electroprecision part number 4259–20 or 4259–31; Kaiser Roylyn/Kaiser Electroprecision cap/flange part number 2651–194C, 2651–197C, 2651–216, 2651–219, 2651–235, 2651–256, 2651–258, 2651–259, 2651–260, 2651–275, 2651–282, 2651–286; or other FAA-approved equivalent part; accomplish the requirements at the times specified in paragraphs (b)(2)(iv)(A), (b)(2)(iv)(B), and (b)(2)(iv)(C) of this AD. For the purposes of this paragraph [(b)(2)(iv)], ''FAA-approved equivalent part'' means either a ''donut'' plug that mates with the cap/flange having part numbers listed in this paragraph, or a cap/flange that mates with the ''donut'' plug having part numbers listed in this paragraph, such that the cap/flange and ''donut'' plug are used together as an assembled valve.

(A) Within 200 flight hours after the effective date of this AD, or within 200 flight hours after the last documented leak test, whichever occurs later, conduct leak tests of the dump valve and the service panel drain valve. Thereafter, repeat the tests at intervals not to exceed 200 flight hours. The dump valve leak test must be performed by filling the toilet tank with a minimum of 10 gallons of water/rinsing fluid and testing for leakage after a period of 5 minutes. Take precautions to avoid overfilling the tank and spilling fluid on the airplane. The service panel drain valve leak test must be performed with a minimum 3 PSID applied across the valve.

(B) Perform a visual inspection of the outer door/cap and seal mating surface for wear or damage that may cause leakage. Perform this inspection in conjunction with the leak tests specified in paragraph (b)(2)(iv)(A).

(C) Within 5,000 flight hours after the effective date of this AD, replace the donut valve with another type of FAA-approved valve. Following replacement of the valve, perform the subsequent leak tests and seal replacements at the intervals specified for the new valve.

(v) For each lavatory drain system that incorporates any other type of approved valves: Within 400 flight hours after the effective date of this AD, or within 400 flight hours of the last documented leak test, whichever occurs later, accomplish the requirements of paragraph (b)(2)(v)(A) and (b)(2)(v)(B) of this AD. Thereafter, repeat the requirements at intervals not to exceed 400 flight hours.

(A) Conduct leak tests of the toilet tank dump valve and the service panel drain valve. The toilet tank dump valve leak test must be performed by filling the toilet tank with a minimum of 10 gallons of water/rinsing fluid and testing for leakage after a period of 5 minutes. Take precautions to avoid overfilling the tank and spilling fluid on the airplane. The service panel drain valve leak test must be performed with a minimum 3 PSID applied across the valve. If the service panel drain valve has an inner door with a second positive seal, only the inner door must be tested.

(B) Perform a visual inspection of the outer cap/door and seal mating surface for wear or damage that may cause leakage.

(3) For flush/fill lines: Within 5,000 flight hours after the effective date of this AD, perform the requirements of paragraph (b)(3)(i), (b)(3)(ii), or (b)(3)(iii), as applicable. Thereafter, repeat the requirements at intervals not to exceed 5,000 flight hours, or 48 months after the last documented seal change, whichever occurs later.

(i) If a lever lock cap is installed on the flush/fill line of the subject lavatory, replace the seals on the toilet tank anti-siphon (check) valve and the flush/fill line cap. Perform a leak test of the toilet tank anti-siphon (check) valve with a minimum of 3 PSID across the valve as specified in paragraph (b)(3)(ii)(A) of this AD.

(ii) If a vacuum breaker check valve, Monogram part number series 3765–190 or Shaw Aero Devises part number series 301–0009–01, is installed on the subject lavatory; replace the seals/o-rings in the valve. Prior to further flight, leak test the vacuum breaker check valve, and test for proper operation of the vent line vacuum breaker as specified in paragraphs (b)(3)(ii)(A) and (b)(3)(ii)(B) of this AD.

(A) Leak test the toilet tank anti-siphon valve or the vacuum breaker check valve by filling the toilet tank with water/rinsing fluid to a level such that the bowl is approximately half full (at least 2 inches above the flapper in the bowl). Pressurize the airplane to 3 PSID. The vent line vacuum breaker on vacuum breaker check valves must be pinched closed or plugged for this leak test. If there is a cap/valve at the flush/fill line port, the cap/valve must be removed/opened during the test. Test for leakage at the flush/fill line port for a period of 5 minutes.

Note 5: The leak test procedure in the appropriate section of Boeing Maintenance Manual 38–32–00 may be used as guidance for this test if the toilet tank is filled approximately half full (at least 2 inches above the flapper in the bowl).

(B) Verify proper operation of the vent line vacuum breaker by filling the tank and testing at the fill line port for back drainage after disconnecting the fluid source from the flush/fill line port. If back drainage does not occur, replace the vent line vacuum breaker or repair the vacuum breaker check valve in accordance with the component maintenance manual as required to obtain proper back drainage.

(iii) If a flush/fill ball valve, Kaiser Electroprecision part number series 0062–009 installed on the flush/fill line of the subject lavatory, replace the seals in the flush/fill ball valve and the toilet tank anti-siphon valve. Perform a leak test of the toilet tank anti-siphon valve in accordance with paragraph (b)(3)(ii))(A) of this AD.

(4) Provide procedures for accomplishing visual inspections to detect leakage, to be conducted by maintenance personnel at intervals not to exceed 4 calendar days or 45 flight hours, which ever occurs later.

(5) Provide procedures for reporting leakage. These procedures shall provide that any ''horizontal blue streak'' findings must be reported to maintenance and that, prior to further flight, the leaking system shall either be repaired, or be drained and placard inoperative.

(6) Provide training programs for maintenance and servicing personnel that include information on ''Blue Ice Awareness'' and the hazards of ''blue ice''.

(7) If a leak is discovered during a leak test required by paragraph (b) of this AD; or if evidence of leakage is found at any other time; or if repair/replacement of a valve (or valve parts) is required as a result of a visual inspection required in accordance with this AD; prior to further flight, accomplish the requirements of paragraph (b)(7)(i), (b)(7)(ii), or (b)(7)(iii), as applicable.

Note 6: For purposes of this AD, ''leakage'' is defined as any visible leakage, if observed during a leak test. At any other time (than during a leak test), ''leakage'' is defined as the presence of ice in the service panel, or horizontal fluid residue streaks/ice trails originating at the service panel. The fluid residue is usually, but not necessarily, blue in color.

(i) Repair the leak and, prior to further flight after repair, perform a leak test. Additionally, prior to returning the airplane to service, clean the surfaces adjacent to where the leakage occurred to clear them of any horizontal fluid residue streaks; such cleaning must be to the extent that any future appearance of a horizontal fluid residue streak will be taken to mean that the system is leaking again.

(ii) Repair or replace the valve or valve parts.

(iii) In lieu of either paragraph (b)(7)(i) or (b)(7)(ii), drain the affected lavatory system and placard the lavatory inoperative until repairs can be accomplished.

(c) For operators who elect to comply with paragraph (b) of this AD: Any revision to (i.e., extension of) the leak test intervals required by paragraph (b) of this AD must be approved by the Manager, Seattle ACO, FAA, Transport Airplane Directorate. Requests for such revisions must be submitted to the Manager of the Seattle ACO through the FAA Principal Maintenance Inspector (PMI), and must include the following information:

(1) The operator's name;

(2) A statement verifying that all known cases/indications of leakage or failed leak tests are included in the submitted material;

(3) The type of valve (make, model, manufacturer, vendor part number, and serial number);

(4) The period of time covered by the data;

(5) The current FAA leak test interval;

(6) Whether or not seals have been replaced between the seal replacement intervals required by this AD;

(7) Whether or not a service panel drain valve is installed downstream of an in-line drain valve, Kaiser Electroprecision part number series 2651–278: Data on a service panel valve installed downstream of an in-line drain valve will not be considered as an indicator of the reliability of the service panel drain valve because the in-line valve prevents potential leakage from reaching the service panel drain valve.

(8) Whether or not leakage has been detected between leak test intervals required by this AD, and the reason for leakage (i.e., worn seals, foreign materials on sealing surface, scratched or damaged sealing surface on valve, etc.);

(9) Whether or not any cleaning, repairs, or seal changes were performed on the valve prior to conducting the leak test. [If such activities have been accomplished prior to conducting the periodic leak test, that leak test shall be recorded as a ''failure'' for purposes of the data required for this request submission. The exception to this is the normally-scheduled seal change in accordance with paragraph (b)(1) of this AD. Performing this scheduled seal change prior to a leak test will not cause that leak test to be recorded as a failure. Debris removal of major blockages done as part of normal maintenance for previous flights is also allowable and will not cause a leak test to be recorded as a failure. Minor debris removal that is not commonly removed during the normal ground maintenance test should not be removed prior to the leak test.]

Note 7: Requests for approval of revised leak test intervals may be submitted in any format, provided the data give the same level of assurance specified in paragraph (c) above. Results of an Environmental Quality Analysis (EQA) examination and leak test on a randomly selected high-flight-hour valve, with seals that have not been replaced during a period of use at least as long as the desired interval, may be considered a valuable supplement to the service history data, reducing the amount of service data that would otherwise be required.

Note 8: For the purposes of expediting resolution of requests for revisions to the leak test intervals, the FAA suggests that the requester summarize the raw data; group the data gathered from different airplanes (of the same model) and drain systems with the same kind of valve; and provide a recommendation from pertinent industry group(s) and/or the manufacturer specifying an appropriate revised leak test interval.

Note 9: In cases where changes are made to a valve design approved for an extended leak test interval such that a new valve dash number or part number is established for the valve, the FAA may not require extensive service history data to approve the new valve to the same leak test interval as the previous valve design. Similarity of design, the nature of the design changes, the nature and amount of testing, and like factors will be considered by the FAA to determine the appropriate data requirements and leak test interval for a new or revised valve based upon an existing design.

(d) For all airplanes: Unless already accomplished, within 5,000 flight hours after the effective date of this AD, perform the actions specified in paragraph (d)(1), (d)(2), or (d)(3) of this AD:

(1) Install an FAA-approved lever/lock cap on the flush/fill lines for all lavatories. Or

(2) Install a vacuum break, Monogram part number series 3765–190, or Shaw Aero Devises part number series 301–0009–01, in the flush/fill lines for all lavatories. Or

(3) Install a flush/fill ball valve Kaiser Electroprecision part number series 0062–0009 on the flush/fill lines for all lavatories.

(e) For any affected airplane acquired after the effective date of this AD: Before any operator places into service any airplane subject to the requirements of this AD, a schedule for the accomplishment of the leak tests required by this AD shall be established in accordance with either paragraph (e)(1) or (e)(2) of this AD, as applicable. After each leak test has been performed once, each subsequent leak test must be performed in accordance with the new operator's schedule, in accordance with either paragraph (a) or (b) of this AD as applicable.

(1) For airplanes previously maintained in accordance with this AD, the first leak test to be performed by the new operator must be accomplished in accordance with the previous operator's schedule or with the new operator's schedule, whichever would result in the earlier accomplishment date for that leak test.

(2) For airplanes that have not been previously maintained in accordance with this AD, the first leak test to be performed by the new operator must be accomplished prior to further flight, or in accordance with a schedule approved by the FAA PMI, but within a period not to exceed 200 flight hours.

(f) Alternative method(s) of compliance with this AD:

(1) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle ACO, FAA, Transport Airplane Directorate. Operators shall submit their requests through an appropriate FAA PMI, who may add comments and then send it to the Manager, Seattle ACO.

(2) Alternative methods of compliance previously approved for AD 89–11–03, which permit a 4,500-flight hour interval between leak tests of the forward waste drain system for those operators installing the modifications specified in Boeing Service Bulletin 737–38–1026, Revision 2, dated May 4, 1995, or Boeing Service Bulletin 737–38–1031, Revision 1, dated April 20, 1995, and later FAA-approved revisions, are considered acceptable alternative methods of compliance with the requirements of only paragraph (a)(2) of this AD. For those operators, the other requirements of this AD are still required to be accomplished. All other alternative methods of compliance approved for AD 89–11–03 are terminated and are no longer in effect.

Note 10: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

Note 11: For any valve that is not eligible for the extended leak test intervals of this AD: To be eligible for the extended leak test intervals specified in paragraph (b) of this AD, the service history data of the valve must be submitted to the Manager, Seattle ACO, FAA, Transport Airplane Directorate, with a request for an alternative method of compliance. The request should include an analysis of known failure modes for the valve, if it is an existing design, and known failure modes of similar valves, with an explanation of how design features will preclude these failure modes, results of qualification tests, and approximately 25,000 flight hours or 25,000 flight cycles of service history data which include a winter season, collected in accordance with the requirements of paragraph (c) above, or a similar program. One of the factors that the FAA will consider in approving alternative valve designs is whether the valve meets Boeing Specification S417T105 or 10–62213. However, meeting the Boeing specification is not a prerequisite for approval of alternative valve designs.

(g) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Issued in Renton, Washington, on November 18, 1997.

James V. Devany,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 97–NM–148–AD]

RIN 2120–AA64

Airworthiness Directives; Airbus Model A320 and A321 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to certain Airbus Model A320 and A321 series airplanes. This proposal would require replacement of the fuel pump strainers with improved strainers. This