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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA-2003-14193; Amdt. No. 25-114]

RIN: 2120-AH34

Design Standards for Fuselage Doors on Transport Category Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The Federal Aviation Administration (FAA) amends the design standards for fuselage doors, hatches, and exits on transport category airplanes. This action improves door integrity by providing design criteria that ensure doors remain secure under all circumstances that service experience has shown can happen. Adopting this amendment also relieves a certification burden on industry by removing regulatory differences between the airworthiness standards and related guidance material of the United States and Europe.

DATES: This amendment becomes effective [insert date 30 days after date of publication in the Federal Register].

FOR FURTHER INFORMATION CONTACT: Jeff Gardlin, Federal Aviation Administration, Airframe and Cabin Safety Branch, ANM-115, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (425) 227-2136; fax 425-227-1320; e-mail jeff.gardlin@faa.gov.

SUPPLEMENTARY INFORMATION:

Availability of Rulemaking Documents

You can get an electronic copy using the Internet by:

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

(2) Visiting the Office of Rulemaking's web page at http://www.faa.gov/avr/arm/index.cfm; or

(3) Accessing the Government Printing Office's web page at http://www.access.gpo.gov/su_docs/aces/aces140.html.

You can also get a copy from the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW, Washington, DC 20591, or by calling (202) 267-9680. Be sure to identify the amendment number or docket number of this rulemaking.

You can search the electronic form of all comments in any of our dockets by the individual filing the comment (or signing the comment, if filed for an association, business, labor union, for example). You may review DOT's complete Privacy Act statement in the Federal Register published on April 11, 2000 (Volume 65, Number 70; Pages 19477-78) or you may visit http://dms.dot.gov.

Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. If you are a small entity and you have a question about this document, you may contact your local FAA official,

or the person listed under FOR FURTHER INFORMATION CONTACT. You can find out more about SBRFA on the Internet at http://www.faa.gov/avr/arm/sbrefa.htm, or by e-mailing us at 9-AWA-SBREFA@faa.gov.

Background

This final rule responds to notice of proposed rulemaking (NPRM) No. 03-01, published in the Federal Register on January 14, 2003 (68 FR 1932).

In NPRM No. 03-01, the FAA proposed to revise and reorganize the existing rules in Title 14, Code of Federal Regulations (CFR), part 25, to provide:

- Clarification of the existing design requirements for doors.
- Definitive criteria for door design requirements covered in the existing rules by general text.
- Additional fail-safe requirements and detailed door design requirements, based on the recommendations of the National Transportation Safety Board (NTSB) and the Air Transport Association (ATA), and on current industry practice.

In the NPRM you will find a history of the problems and discussions of the safety considerations supporting our course of action. You will also find a discussion of the current requirements and why they do not adequately address the problem. We also refer to the recommendations of the Aviation Rulemaking Advisory Committee (ARAC) that we relied on in developing the proposed rule. The NPRM also discusses alternatives we considered and the reasons for rejecting the ones we did not adopt.

The background material in the NPRM also contains the basis and rationale for these requirements and, except where we have specifically expanded on the background elsewhere in this preamble, supports this final rule as if contained here. That is, any future discussions on the intent of the requirements may refer to the background in the

NPRM as though it was in the final rule itself. It is therefore not necessary to repeat the background in this document.

Definitions

The following definitions will aid the reader in understanding the final rule:

- A latch is a movable mechanical element that, when engaged, prevents the door from opening.
- A lock is a mechanical element that monitors the latch position and, when engaged, prevents the latch from becoming disengaged.
- Latched means the latches are fully engaged with their structural counterparts and held in position by the latch operating mechanism.
- Locked means the locks are fully engaged.
- Latching mechanism includes the latch operating mechanism and the latches.
- Locking mechanism includes the lock operating mechanism and the locks.
- Closed means the door has been placed within the doorframe in such a position that the latches can be operated to the "latched" condition.
- Fully closed means the door is placed within the doorframe in the position that it will occupy when the latches are in the latched condition.

NTSB Safety Recommendations

After its investigation of airplane accidents associated with fuselage doors opening during flight, the NTSB issued several safety recommendations concerning doors on transport category airplanes. In the NPRM, we discuss those recommendations and the FAA's response.

After the conclusion of the harmonization activity that led to this final rule, the FAA received another safety recommendation, A-02-020, from the NTSB. The NTSB recommended the FAA, "Require all newly certificated transport category airplanes [to] have a system for each emergency exit door to relieve pressure so that they can only be

opened on the ground after a safe differential pressure level is attained." In the NPRM, we specifically sought comments on this recommendation. Although no one commented on this issue, we believe there should be some means to address the potential for unsafe opening of a door on the ground. The specific action proposed in the safety recommendation is not necessarily the only approach to this concern. We have not yet determined whether a regulatory action is appropriate, or what form that regulatory action might take. Because the issue is important, we will add discussion to Advisory Circular (AC) 25.783-1, "Fuselage Doors, Hatches, and Exits," addressing the need to consider safety of occupants opening exits when there is differential pressure remaining on the airplane. This will identify the issue and permit manufacturers to address it in the most effective manner for their specific design.

History

In the United States, 14 CFR part 25 contains the airworthiness standards for type certification of transport category airplanes. Manufacturers of transport category airplanes must show that each airplane they produce of a different type design complies with the appropriate part 25 standards.

In Europe, Joint Aviation Requirements (JAR)-25 contains the airworthiness standards for type certification of transport category airplanes. The Joint Aviation Authorities (JAA) of Europe developed these standards, which are based on part 25, to provide a common set of airworthiness standards within the European aviation community. Thirty-seven European countries accept airplanes type certificated to the JAR-25 standards, including airplanes manufactured in the U.S. type certificated to JAR-25 standards for export to Europe.

Although part 25 and JAR-25 are similar, they are not identical in every respect. When airplanes are type certificated to both sets of standards, the differences between part 25 and JAR-25 can result in substantial added costs to manufacturers and operators. These additional costs, however, often do not bring about an increase in safety.

Recognizing that a common set of standards would not only benefit the aviation industry economically, but also preserve the necessary high level of safety, the FAA and the JAA began an effort in 1988 to "harmonize" their respective aviation standards.

After beginning the first steps towards harmonization, the FAA and JAA soon realized that traditional methods of rulemaking and accommodating different administrative procedures was neither sufficient nor adequate to make noticeable progress towards fulfilling the harmonization goal. The FAA identified the ARAC as an ideal vehicle for helping to resolve harmonization issues, and in 1992 the FAA tasked ARAC to undertake the entire harmonization effort.

Despite the work that ARAC has undertaken to address harmonization, there remain many regulatory differences between part 25 and JAR-25. The current harmonization process is costly and time-consuming for industry, the FAA, and the JAA. Industry has expressed a strong need to finish the harmonization program as quickly as possible to relieve the drain on their resources and finally to establish one acceptable set of standards.

Representatives of the FAA and JAA proposed an accelerated process to reach harmonization, the "Fast Track Harmonization Program." The FAA introduced the Fast Track Harmonization Program on November 26, 1999 (64 FR 66522). This rulemaking is a "fast-track" project.

You can find further details on ARAC, its role in harmonization rulemaking activity, and the Fast Track Harmonization Program in the tasking statement (64 FR 66522, November 26, 1999) and the first NPRM published under this program, Fire Protection Requirements for Powerplant Installations on Transport Category Airplanes (65 FR 36978, June 12, 2000).

Related Activity

The new European Aviation Safety Authority (EASA) was established and formally came into being on September 28, 2003. The JAA worked with the European Commission (EC) to develop a plan to ensure a smooth transition from the JAA to the EASA. As part of the transition, the EASA will absorb all functions and activities of the JAA, including its efforts to harmonize the JAA regulations with those of the U.S. These JAR standards have already been incorporated into the EASA "Certification Specifications for Large Aeroplanes" (CS-25) in similar, if not identical, language. The EASA CS-25 became effective October 17, 2003.

Related Advisory Circular

The FAA plans to revise AC 25.783-1 to provide guidance for showing compliance with structural and functional safety standards for doors and their operating systems. When we issue the AC, we will publish a notice in the Federal Register.

Discussion of Comments

Eight commenters responded to the NPRM. The commenters include three private citizens, two foreign airworthiness authorities, an industry association representing the interests of several groups in the aviation industry, an association representing the interests of pilots in the U.S and Canada, and an airplane manufacturer. All commenters generally support the proposed rule. Comments, including suggested changes, are discussed below.

Comment: An individual with cabin door design experience suggests that limiting the requirement to address intentional opening to airplanes with more than 19 passenger seats would improve safety. The commenter bases his position on the premise that airplanes with 19 or fewer passenger seats are a small percentage of the commercial fleet, the operator typically knows the passengers, and it is unlikely a person would intentionally open the exit. The commenter states that such a requirement could become a hazard to emergency evacuation of these airplanes because the rules only require a single pair of exits. If the means to prevent intentional opening were to fail and the exit could not be opened, a higher percentage of exits would become unavailable than for larger airplanes.

FAA reply: While the commenter's points have some merit, the requirement is not related to how the airplane is operated. The intent of the requirement is to safeguard against an event of intentional opening, regardless of whether the operator knows the passengers. The commenter's statement therefore is not relevant that the number of passengers carried in commercial service on airplanes with 19 or fewer passenger seats is a small percentage of the total. Consideration of exit availability is more significant.

In a review of airplanes of this size as part of the FAA's response to NTSB safety recommendation A-02-020, it does appear that many current designs could be affected by this requirement. On some airplanes, the main entry door is openable at relatively high differential pressures. Whether this would constitute a hazard to the airplane would have to be investigated. The entry door is typically the largest exit on the airplane. Although the loss of this exit would represent more than 50 percent of the evacuation capability of the airplane, the remaining exit would still be adequate for the number of people on board. The intentional opening of the exit is an immediate hazard to the airplane. This concern outweighs the potential decrease in evacuation capability that could occur if the exit were unavailable because of a system failure, and if there were an emergency evacuation at the same time. While the evacuation capability would be significantly reduced, it would still satisfy the regulatory requirements and be acceptable for the number of people on board.

No changes were made to the final rule.

Comment: One commenter recommends adding the following requirements:

- Ability to close the doors after being opened in an emergency.
- Reliability tests.
- Function with minor fuselage deformation.
- Display of slide arming status on the fuselage exterior

FAA reply: The commenter's recommendations relate to emergency evacuation, which was not the focus of the NPRM. Although the NPRM had some ancillary impact on evacuation requirements, it focused on the airworthiness of fuselage doors. The commenter's proposed requirements for reliability tests and door opening with minor

deformation are effectively already part of the regulations. Section 25.809(g) requires provisions to minimize the probability of jamming of the emergency exits resulting from fuselage deformation that might occur in a minor crash landing. In addition, regulations governing escape slide performance result in extensive tests of exit system reliability. These recommendations are beyond the scope of the NPRM as they relate primarily to emergency evacuation.

No changes were made to the final rule.

Comment: The Civil Aviation Authority of the United Kingdom (CAA-UK) recommends adoption of the proposed requirements and a clarifying change to the intent of § 25.783(a)(2). The CAA-UK states that since the hazardous condition identified in § 25.783(a)(2) is *unlatching*, then the event to be prevented should also be unlatching.

FAA reply: The rule, as proposed, would require that inadvertent *opening* of the door be extremely improbable, but does not specifically address the unlatching event. Section 25.783 has historically categorized the opening of a door as the safety threat and has not addressed intermediate steps in the sequence of that opening. This rule is more specific regarding the reason that a door can become a hazard. The purpose of paragraph (a)(2) is to prevent the hazardous condition. It therefore makes sense that the requirement address *unlatching* as extremely improbable, rather than simply door opening. In this case, the FAA assumes that if the door unlatches, it will open.

The Joint Aviation Authorities (JAA) submitted the final version of their Notice of Proposed Amendment, NPA, 25D-301, to the docket for NPRM No. 03-01 and recommends the FAA adopt the language of the NPA, which they revised to address comments, including those of the CAA-UK. As our NPRM was the result of

harmonization efforts with the JAA and Transport Canada, we consider the content of the JAA NPA important in maintaining harmonization.

As the result of the CAA-UK comment and in order to maintain harmonization , § 25.783(a)(2) is changed.

Comment: The JAA proposes adding the following new requirement to the final rule to address an issue not specifically covered in NPRM No. 03-01: "Each door that could result in a hazard if not closed, must have means to prevent the latches from being moved to the latched position unless the door is closed."

FAA reply: The proposed requirements contain provisions to prevent the out-of-sequence actuation of certain elements of the door mechanism. This approach is a basic philosophy to ensure that false or misleading indications are not created by out-of-sequence operation. For example, proposed § 25.783(d)(5) states: "It must not be possible to position the lock in the locked position if the latch and the latching mechanism are not in the latched position." In this case, the JAA has adopted a new requirement to address latch movement prior to closing. Many current designs already incorporate such means.

While not directly covered in the NPRM, this requirement is clearly in keeping with the overall approach to fuselage door safety expressed in the NPRM and could be seen as a logical outgrowth of the proposed requirements. We have determined, however, that there may be instances where such a provision would not be necessary, and so adopting the requirement for all designs would impose an unnecessary burden. For example, a manually-operated passenger entry door could have latches that, when in the latched position, would inhibit movement of the door to the closed position. That is, the

door is obviously standing open and would be obvious to the person operating the door. In that case, the design of the door fulfills the objective of preventing door closure with the latches in the latched position.

Conversely, for some designs, such a provision would clearly be necessary to meet the requirements of this rule as written. An example would be a cargo door that is operated remotely and could be positioned such that the operator would not be able to visually determine whether it was properly closed. If the latches were in the latched position, this would add to the potential confusion. Paragraph (e)(2), as adopted, requires positive means, clearly visible from the operator's station, to indicate that each door that could be a hazard is not properly closed, latched, and locked. For the remotely operated cargo door, satisfying the requirement would likely require a means to prevent the door from being closed with the latches in the latched position. While this rule will not maintain strict harmonization with the JAA, we believe the intent of the requirement as adopted by the JAA is still satisfied. Designs found acceptable by the FAA can also be found acceptable by the JAA.

No changes were made as the result of this comment.

The CAA-UK and one individual also had several editorial suggestions for clarity on the use of terms, which we accepted where appropriate. These suggestions are purely editorial and do not change the substance of the requirements.

Paperwork Reduction Act

There are no current or new requirements for information collection associated with this final rule.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to this final rule.

Executive Order 12866 and DOT Regulatory Polices and Procedures

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic effect of regulatory changes on small entities. Third, the Trade Agreements Act (19 U.S.C. section 2531-2533) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act also requires the consideration of international standards and, where appropriate, that they be the basis of U.S. standards. And fourth, the Unfunded Mandates Reform Act of 1995 requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector of $100 million or more annually (adjusted for inflation).

The FAA has determined that this final rule has minimal costs, and that it is neither "a significant regulatory action" as defined in Executive Order 12866, nor

"significant" as defined in DOT's Regulatory Policies and Procedures. Further, this rule will not have a significant economic impact on a substantial number of small entities, will reduce barriers to international trade, and will not impose an Unfunded Mandate on State, local, or tribal governments, or on the private sector.

The DOT Order 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If it is determined that the expected impact is so minimal that the rule does not warrant a full evaluation, a statement to that effect and the basis for it is included in the regulation. Accordingly, the FAA has determined the expected impact of this rule is so minimal the rule does not warrant a full evaluation. We provide the basis for this determination as follows.

Currently, airplane manufacturers must satisfy both part 25 and the European standards to certificate transport category aircraft in both the United States and Europe. Meeting two sets of certification requirements raises the cost of developing a new transport category airplane often with no increase in safety. In the interest of fostering international trade, lowering the cost of aircraft development, and making the certification process more efficient, the FAA, European Authorities, Transport Canada, and aircraft manufacturers have been working to create, to the maximum possible extent, a single set of certification requirements accepted in the United States, Europe, and Canada. As explained in detail previously, these efforts are referred to as "harmonization."

This final rule amends the current fuselage door standard contained in 14 CFR part 25 with a new improved door standard. This new standard will set forth, as a regulatory requirement, some of the existing technical guidance criteria that have been

determined to be necessary for safety but which, up to this point, have not been included in the regulations. In addition, this rule addresses recommendations from the NTSB and the ATA task force on doors.

With the one exception noted, this rule harmonizes the FAA and European requirements for fuselage doors. The rule will relieve a certification burden on industry by eliminating regulatory differences between the airworthiness standards and related guidance material of the United States and Europe.

Costs and Benefits of the Final Rule

In the NPRM, the FAA identified only one section, 25.783(b), where manufacturers would incur a measurable cost. For the other changes, the FAA has not made quantitative cost estimates but has provided qualitative cost estimates. There were no comments to the docket contesting these estimates.

1. Paragraph 25.783(a) is descriptive and has no expected cost.

2. Paragraph 25.783(b) relates to opening by persons. The requirement is new to have design precautions taken to minimize the possibility for a person to open a door intentionally during flight, but is expected to be accommodated in existing design practices for all but one United States manufacturer. (Requirements regarding inadvertent opening are not new.) One manufacturer expects to incur an estimated cost of $0.75 million, which will include the requirements for the prevention of intentional opening of the doors.

3. Paragraph 25.783(c) covers means to prevent pressurization. The requirement to consider single failures in the pressurization-inhibit system is new, but is believed to be industry practice. Thus, the cost, if any, is expected to be very little for a new design.

The provision to permit certain doors to forego this system is actually cost relieving and could result in a minor cost reduction in some cases.

4. Paragraph 25.783(d) covers latching and locking. Most of these changes incorporate recommendations currently contained in an advisory circular. The vast majority of airplanes already comply, and basic design practice is to comply with these requirements. Therefore, these requirements, while new, have minimal cost impact. The requirement for each latch to have a lock that monitors the latch position formalizes existing practice. The requirement to eliminate forces in the latching mechanism that could load the locks is new and may not be complied with in all cases currently. The FAA believes that these costs are minimal.

5. Paragraph 25.783(e) covers warning, caution, and advisory indications. The reliability of the door indication system will be required to be higher for all doors. This is expected to have only a small cost impact, as will the requirement for an aural warning for certain doors, and the requirement to provide an indication to the door operator.

6. Paragraph 25.783(f) contains the visual inspection provision requirement. The requirement for direct visual inspection is extended to more door types, and may add costs in some cases.

7. Paragraph 25.783(g) deals with certain maintenance doors, removable emergency exits, and access panels. This provision may reduce costs in some cases as indicated in the AC.

8. Paragraph 25.783(h) covers doors that are not a hazard and is intended to provide relief for certain doors, so it could reduce costs.

9. Paragraphs 25.783(i), 25.783(j), 25.809(b), 25.809(c), and 25.809(f) move text to other sections, improve clarity, and have no impact on cost. These changes, as summarized in the NPRM, are repeated here for the reader's understanding of the changes.

- The changes to § 25.783(i) are removed from existing § 25.783 and added in § 25.810 ("Emergency egress assist means and escape routes") as a new paragraph (e).

- The changes to § 25.783(j) move the special requirement for lavatory doors from the current paragraph (j) to the new § 25.820 ("Lavatory doors").

- Section 25.809(b) ("Emergency exit arrangement") is revised by adding a new paragraph (b)(3) to require that each emergency exit must be capable of being opened, when there is no fuselage deformation, "even though persons may be crowded against the door on the inside of the airplane." This specific requirement is currently a part of § 25.783(b), but is more appropriate as part of the emergency exit arrangement requirements of § 25.809.

- The changes to § 25.809(c) include the requirement that the means of opening emergency exits also must be marked so it can be readily located and operated, even in darkness. This requirement is currently located in § 25.783(b), but is more appropriate as part of the emergency exit arrangement requirements of § 25.809.

- Section 25.809(f) is revised to require that the external door be located where persons using it will not be endangered by the propellers when appropriate operating procedures are used. This requirement currently is found in § 25.783(d), but is more applicable to the emergency exit arrangement requirements of § 25.809.

10. Paragraph 25.807 corrects an unintended deletion.

Summary of Costs and Benefits

This final rule is expected to--

- maintain or provide an increase in the level of safety;

- have only a relatively small effect on costs when compared to current industry practice; and

- provide some cost savings to manufacturers by avoiding duplicative testing and reporting that could result from the existence of differing requirements under the current standards.

This rule will codify existing guidance, standard industry practice, and industry recommendations for the design standards for fuselage doors. The FAA believes the cost savings from a single certification requirement exceed the minimal additional compliance cost. The FAA therefore considers the final rule will be cost-beneficial. This conclusion is reinforced by industry's support for the proposal and the absence of comments to the docket regarding the economic analyses.

Final Regulatory Flexibility Determination

The Regulatory Flexibility Act (RFA) of 1980, 50 U.S.C. 601-612, as amended, establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principle, the RFA requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The Act covers a wide range of small entities, including businesses and governments.

Agencies must perform a review to determine whether a final rule will have a significant impact on a substantial number of small entities. If the determination is that the final rule will, the Agency must prepare a regulatory flexibility analysis as described in the RFA.

If, however, an agency determines that the rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of

the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

As stated in the initial regulatory flexibility determination, the FAA certifies that this final rule will not have a significant economic impact on a substantial number of small entities for two reasons:

First, the rule is expected to provide relief from some regulatory costs. The final rule will require that manufacturers of transport category aircraft meet a single certification requirement, rather than different standards for the United States and Europe. Manufacturers of the affected airplanes are believed to already meet, or expect to meet most standards that will be required by this final rule .

Second, all affected U.S. transport-aircraft category manufacturers exceed the Small Business Administration small-entity criterion of 1,500 employees for aircraft manufacturers, as published by the Small Business Administration in 13 CFR part 121, Small Business Size Regulations; Size Standards (65 FR 53533, September 5, 2000). The current U.S. part 25 airplane manufacturers include: Boeing, Cessna Aircraft, Gulfstream Aerospace, Learjet (owned by Bombardier), Lockheed Martin, McDonnell Douglas (a wholly-owned subsidiary of The Boeing Company), Raytheon Aircraft, and Sabreliner Corporation. All of these manufacturers have more than 1,500 employees and therefore do not qualify as small entities.

The FAA certified in the NPRM that the proposal would not have a significant impact on a substantial number of small entities. There were no comments to the docket contesting this FAA certification. Consequently, as the rule is expected to provide cost

relief, there are no small entities affected, and the comments received did not dispute the initial economic analysis, the FAA certifies that this final rule will not have a significant economic impact on a substantial number of small entities.

Trade Impact Assessment

The Trade Agreement Act of 1979 prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards.

The FAA has assessed the potential effect of this final rule and has determined that it will reduce trade barriers by narrowing the differences between U.S. standards and European international standards.

Unfunded Mandates Assessment

The Unfunded Mandates Reform Act of 1995 (the Act) is intended, among other things, to curb the practice of imposing unfunded Federal mandates on State, local, and tribal governments. Title II of the Act requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure of $100 million or more (adjusted annually for inflation) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector. Such a mandate is deemed to be a "significant regulatory action."

This final rule does not contain such a mandate. The requirements of Title II of the Act therefore do not apply.

Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. We determined that this action will not have a substantial direct effect on the States, or the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government, and therefore does not have federalism implications.

Plain English

Executive Order 12866 (58 FR 51735, October 4, 1993) requires each agency to write regulations that are simple and easy to understand. We invite your comments on how to make these regulations easier to understand, including answers to questions such as the following:

- Are the requirements clearly stated?
- Do the regulations contain unnecessary technical language or jargon that interferes with their clarity?
- Would the regulations be easier to understand if they were divided into more (but shorter) sections?
- Is the description in the preamble helpful in understanding the final rule?

Please send your comments to the address specified in the FOR FURTHER INFORMATION CONTACT section.

Regulations Affecting Intrastate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the FAA, when modifying its regulations in a manner affecting intrastate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish such regulatory distinctions. In the NPRM, we

requested comments on whether the proposed rule should apply differently to intrastate operations in Alaska. We did not receive any comments, and we have determined, based on the administrative record of this rulemaking, that there is no need to make any regulatory distinctions applicable to intrastate aviation in Alaska.

Environmental Analysis

FAA Order 1050.1D defines FAA actions that may be categorically excluded from preparation of a National Environmental Policy Act (NEPA) environmental impact statement. In accordance with FAA Order 1050.1D, appendix 4, paragraph 4(j), this final rule qualifies for a categorical exclusion.

Regulations that Significantly Affect Energy Supply, Distribution, or Use.

The FAA has analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). We have determined that it is not a "significant energy action under the executive order because it is not a "significant regulatory action" under Executive Order 12866, and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Recording and recordkeeping requirements.

The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends part 25 of Title 14, Code of Federal Regulations, as follows:

PART 25--AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES

1. The authority citation for part 25 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701-44702, and 44704.

2. Section 25.783 is revised to read as follows:

§ 25.783 Fuselage doors.

(a) General. This section applies to fuselage doors, which includes all doors, hatches, openable windows, access panels, covers, etc., on the exterior of the fuselage that do not require the use of tools to open or close. This also applies to each door or hatch through a pressure bulkhead, including any bulkhead that is specifically designed to function as a secondary bulkhead under the prescribed failure conditions of part 25. These doors must meet the requirements of this section, taking into account both pressurized and unpressurized flight, and must be designed as follows:

(1) Each door must have means to safeguard against opening in flight as a result of mechanical failure, or failure of any single structural element.

(2) Each door that could be a hazard if it unlatches must be designed so that unlatching during pressurized and unpressurized flight from the fully closed, latched, and locked condition is extremely improbable. This must be shown by safety analysis.

(3) Each element of each door operating system must be designed or, where impracticable, distinctively and permanently marked, to minimize the

probability of incorrect assembly and adjustment that could result in a malfunction.

(4) All sources of power that could initiate unlocking or unlatching of any door must be automatically isolated from the latching and locking systems prior to flight and it must not be possible to restore power to the door during flight.

(5) Each removable bolt, screw, nut, pin, or other removable fastener must meet the locking requirements of § 25.607.

(6) Certain doors, as specified by § 25.807(h), must also meet the applicable requirements of §§ 25.809 through 25.812 for emergency exits.

(b) Opening by persons. There must be a means to safeguard each door against opening during flight due to inadvertent action by persons. In addition, design precautions must be taken to minimize the possibility for a person to open a door intentionally during flight. If these precautions include the use of auxiliary devices, those devices and their controlling systems must be designed so that--

(1) no single failure will prevent more than one exit from being opened; and

(2) failures that would prevent opening of the exit after landing are improbable.

(c) Pressurization prevention means. There must be a provision to prevent pressurization of the airplane to an unsafe level if any door subject to pressurization is not fully closed, latched, and locked.

(1) The provision must be designed to function after any single failure, or after any combination of failures not shown to be extremely improbable.

(2) Doors that meet the conditions described in paragraph (h) of this section are not required to have a dedicated pressurization prevention means if, from every possible position of the door, it will remain open to the extent that it prevents pressurization or safely close and latch as pressurization takes place. This must also be shown with any single failure and malfunction, except that--

(i) with failures or malfunctions in the latching mechanism, it need not latch after closing; and

(ii) with jamming as a result of mechanical failure or blocking debris, the door need not close and latch if it can be shown that the pressurization loads on the jammed door or mechanism would not result in an unsafe condition.

(d) Latching and locking. The latching and locking mechanisms must be designed as follows:

(1) There must be a provision to latch each door.

(2) The latches and their operating mechanism must be designed so that, under all airplane flight and ground loading conditions, with the door latched, there is no force or torque tending to unlatch the latches. In addition, the latching system must include a means to secure the latches in the latched position. This means must be independent of the locking system.

(3) Each door subject to pressurization, and for which the initial opening movement is not inward, must --

(i) have an individual lock for each latch;

(ii) have the lock located as close as practicable to the latch; and

(iii) be designed so that, during pressurized flight, no single failure in the locking system would prevent the locks from restraining the latches necessary to secure the door.

(4) Each door for which the initial opening movement is inward, and unlatching of the door could result in a hazard, must have a locking means to prevent the latches from becoming disengaged. The locking means must ensure sufficient latching to prevent opening of the door even with a single failure of the latching mechanism.

(5) It must not be possible to position the lock in the locked position if the latch and the latching mechanism are not in the latched position.

(6) It must not be possible to unlatch the latches with the locks in the locked position. Locks must be designed to withstand the limit loads resulting from--

(i) the maximum operator effort when the latches are operated manually;

(ii) the powered latch actuators, if installed; and

(iii) the relative motion between the latch and the structural counterpart.

(7) Each door for which unlatching would not result in a hazard is not required to have a locking mechanism meeting the requirements of paragraphs (d)(3) through (d)(6) of this section.

(e) Warning, caution, and advisory indications. Doors must be provided with the following indications:

(1) There must be a positive means to indicate at each door operator's station that all required operations to close, latch, and lock the door(s) have been completed.

(2) There must be a positive means clearly visible from each operator station for any door that could be a hazard if unlatched to indicate if the door is not fully closed, latched, and locked.

(3) There must be a visual means on the flight deck to signal the pilots if any door is not fully closed, latched, and locked. The means must be designed such that any failure or combination of failures that would result in an erroneous closed, latched, and locked indication is improbable for —

(i) each door that is subject to pressurization and for which the initial opening movement is not inward; or

(ii) each door that could be a hazard if unlatched.

(4) There must be an aural warning to the pilots prior to or during the initial portion of takeoff roll if any door is not fully closed, latched, and locked, and its opening would prevent a safe takeoff and return to landing.

(f) Visual inspection provision. Each door for which unlatching of the door could be a hazard must have a provision for direct visual inspection to determine, without ambiguity, if the door is fully closed, latched, and locked. The provision must be permanent and discernible under operational lighting conditions, or by means of a flashlight or equivalent light source.

(g) Certain maintenance doors, removable emergency exits, and access panels. Some doors not normally opened except for maintenance purposes or

emergency evacuation and some access panels need not comply with certain paragraphs of this section as follows:

(1) Access panels that are not subject to cabin pressurization and would not be a hazard if open during flight need not comply with paragraphs (a) through (f) of this section, but must have a means to prevent inadvertent opening during flight.

(2) Inward-opening removable emergency exits that are not normally removed, except for maintenance purposes or emergency evacuation, and flight deck-openable windows need not comply with paragraphs (c) and (f) of this section.

(3) Maintenance doors that meet the conditions of paragraph (h) of this section, and for which a placard is provided limiting use to maintenance access, need not comply with paragraphs (c) and (f) of this section.

(h) Doors that are not a hazard. For the purposes of this section, a door is considered not to be a hazard in the unlatched condition during flight, provided it can be shown to meet all of the following conditions:

(1) Doors in pressurized compartments would remain in the fully closed position if not restrained by the latches when subject to a pressure greater than 1/2 psi. Opening by persons, either inadvertently or intentionally, need not be considered in making this determination.

(2) The door would remain inside the airplane or remain attached to the airplane if it opens either in pressurized or unpressurized portions of the flight. This determination must include the consideration of inadvertent and intentional opening by persons during either pressurized or unpressurized portions of the flight.

(3) The disengagement of the latches during flight would not allow depressurization of the cabin to an unsafe level. This safety assessment must include the physiological effects on the occupants.

(4) The open door during flight would not create aerodynamic interference that could preclude safe flight and landing.

(5) The airplane would meet the structural design requirements with the door open. This assessment must include the aeroelastic stability requirements of § 25.629, as well as the strength requirements of subpart C of this part

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(6) The unlatching or opening of the door must not preclude safe flight and landing as a result of interaction with other systems or structures.

3. Amend § 25.807 by revising paragraph (h) to read as follows:

§ 25.807 Emergency exits.

* * * * *

(h) Other exits. The following exits also must meet the applicable emergency exit requirements of §§ 25.809 through 25.812, and must be readily accessible:

(1) Each emergency exit in the passenger compartment in excess of the minimum number of required emergency exits.

(2) Any other floor-level door or exit that is accessible from the passenger compartment and is as large or larger than a Type II exit, but less than 46 inches wide.

(3) Any other ventral or tail cone passenger exit.

* * * * *

4. Amend § 25.809 by adding a new paragraph (b)(3), and by revising paragraphs (c) and (f) to read as follows:

§ 25.809 Emergency exit arrangement.

* * * * *

(b) * * *

(3) Even though persons may be crowded against the door on the inside of the airplane.

(c) The means of opening emergency exits must be simple and obvious; may not require exceptional effort; and must be arranged and marked so that it can be readily located and operated, even in darkness. Internal exit-opening means involving sequence operations (such as operation of two handles or latches, or the release of safety catches) may be used for flightcrew emergency exits if it can be reasonably established that these means are simple and obvious to crewmembers trained in their use.

* * * * *

(f) Each door must be located where persons using them will not be endangered by the propellers when appropriate operating procedures are used.

* * * * *

5. Amend § 25.810 by adding a new paragraph (e) to read as follows:

§ 25.810 Emergency egress assist means and escape routes.

* * * * *

(e) If an integral stair is installed in a passenger entry door that is qualified as a passenger emergency exit, the stair must be designed so that, under the following conditions, the effectiveness of passenger emergency egress will not be impaired:

(1) The door, integral stair, and operating mechanism have been subjected to the inertia forces specified in § 25.561(b)(3), acting separately relative to the surrounding structure.

(2) The airplane is in the normal ground attitude and in each of the attitudes corresponding to collapse of one or more legs of the landing gear.

* * * * *

6. Add a new § 25.820 to read as follows:

§ 25.820 Lavatory doors.

All lavatory doors must be designed to preclude anyone from becoming trapped inside the lavatory. If a locking mechanism is installed, it must be capable of being unlocked from the outside without the aid of special tools.

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Ali Bahrami
Acting Manager, Transport Airplane Directorate
Aircraft Certification Service