DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 33

[Docket No. 2007–28501; Notice No. 07–08]

RIN 2120–AJ05

Airworthiness Standards; Aircraft Engine Standards for Pressurized Engine Static Parts

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA is proposing to amend the aircraft engine type certification standards by adding standards for pressurized engine static parts that are equivalent to those already adopted by European Aviation Safety Agency (EASA). The proposed rule would establish uniform standards for the certification of these parts in the United States and in Europe. U.S. manufacturers already meet the EASA requirements.

DATES: Comments to be submitted on or before December 5, 2007.

ADDRESSES: You may send comments, identified by Docket No. FAA–2007–28501, using any of the following methods:

- *DOT Docket Web site:* Go to *http://dms.dot.gov* and follow the instructions for sending your comments electronically.
- *Government-wide rulemaking Web site:* Go to *http://www.regulations.gov* and follow the instructions for sending your comments electronically.
- *Mail:* Docket Management Facility; U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12–140, Washington, DC 20590.
- *Fax:* Fax comments to the Docket Management Facility at 1–202–493–2251.
- *Hand Delivery:* Take comments to the Docket Management Facility; U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12–140, Washington, DC 20590 between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

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

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

Docket: To read background documents or comments received, go to *http://dms.dot.gov* at any time or, to Docket Management Facility; U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12–140, Washington, DC 20590 between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Tim Mouzakis, Federal Aviation Administration, Engine and Propeller Directorate Standards Staff, ANE–110, Engine and Propeller Directorate, Aircraft Certification Service, 12 New England Executive Park, Burlington, Massachusetts 01803–5299; telephone: (781) 238–7114; facsimile: (781) 238–7199; e-mail: *timoleon.mouzakis@faa.gov*.

SUPPLEMENTARY INFORMATION: Later in this preamble, under the Additional Information section, we discuss how you can comment on this proposal and how we will handle your comments. Included in this discussion is related information about the docket, privacy, and the handling of proprietary or confidential business information. We also discuss how you can get a copy of this proposal and related rulemaking documents.

Authority for This Rulemaking

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, ''General Requirements.'' Under that section, the FAA is charged with prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce, including minimum safety standards for aircraft engines. This regulation is within the scope of that authority because it updates the existing regulations for aircraft engine static parts.

Background

Part 33 of Title 14 of the Code of Federal Regulations (14 CFR Part 33) prescribes airworthiness standards for original and amended type certificates for aircraft engines certificated in the United States. The Certification Specifications for Engines (CS–E) prescribe corresponding airworthiness standards for aircraft engine certification in Europe by the European Aviation Safety Agency (EASA). While part 33 and the European regulations are similar, they differ in several respects. For applicants seeking certification under both part 33 and CS–E, these differences can result in additional costs and delays.

In 1989, the FAA met with the European Joint Aviation Authorities and U.S. and European aviation industry representatives to commence rulemaking to harmonize U.S. and European certification standards. Transport Canada subsequently joined this effort. The FAA tasked the Aviation Rulemaking Advisory Committee (ARAC) [i] through its Engine Harmonization Working Group to review existing regulations and recommend changes that would eliminate differences in U.S. and European engine certification standards for pressurized engine static parts. This proposed rule is based on ARAC's recommendations to the FAA.

General Discussion of the Proposal

Typically, pressurized engine static parts are external engine cases or pressure vessels that operate at significant pressures. They include, but are not limited to: Compressor, combustion, diffuser, and turbine cases; heat exchangers; bleed valve solenoids; starter motors; and fuel, oil and hydraulic system components. FAA regulations do not contain explicit standards for these parts.

Engine case ruptures continue to contribute to propulsion risk. Data from the Continued Airworthiness Assessment Methodologies (CAAM) indicates that case ruptures were the 10th leading cause of CAAM level 3 or 4 events [ii] from 1982 to 1996 and represent a significant hazard to airplanes certificated under part 25. The proposed rule would establish explicit structural integrity requirements for engine static parts that may result in a reduction in burst events of pressurized cases in future certificated engines.

U.S. aircraft engine manufacturers who meet the European certification requirements already comply with the intent of this proposed regulation, since EASA's requirements contain these

[i] Published in the **Federal Register** on October 20, 1998 (63 FR 56059). See Task 13: Fatigue Pressure Test/Analysis.

[ii] Level 3 events involve serious consequences that cause substantial damage to the aircraft or to a second, unrelated system. Level 4 events involve severe consequences including either forced landing, loss of aircraft, or serious injuries to passengers.

proposed standards. This proposed rule would establish similar certification standards in the United States and in Europe with respect to pressurized parts/cases designed to contain pressurized gases or liquids.

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. We have determined that there are no new information collection requirements associated with this proposed 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. We reviewed the corresponding ICAO Standards and Recommended Practices and identified no differences with these proposed regulations.

Regulatory Evaluation, Regulatory Flexibility Determination, International Trade Impact Assessment, and Unfunded Mandates Assessment

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96–354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96–39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, the Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local or tribal governments, in the aggregate, or by the private sector, of $100 million or more, in any one year (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this proposed rule.

Department of Transportation Order DOT 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If the expected cost is so minimal that a proposed or final rule does not warrant a full evaluation, this order permits that a statement to that effect and the basis for it be included in the preamble if a full regulatory evaluation of the cost and benefits is not prepared. Such a determination has been made for this proposed rule. The reasoning for this determination follows:

This proposed rule:

- Would use European certification requirements, CS–E 640, as the basis for the proposed § 33.64.
- Would update the federal aviation regulations to reflect current industry standards.
- Would not result in incremental costs.
- May reduce existing certification costs.

Presently, engine manufacturers must demonstrate compliance with both part 33 and European certification standards to market turbine engines in both the United States and Europe. Meeting two sets of certification requirements raises the cost of developing a new turbine engine.

EASA has adopted this proposed standard as CS–E 640 Pressure Loads. This proposed rule would add the provisions of CS–E 640 Pressure Loads to part 33 as a new § 33.64, Pressurized engine static parts, under Subpart E—Design and Construction; Turbine Aircraft Engines. We have concluded, for the reasons discussed above, that adoption of this proposed rule, consistent with the EASA standards, into part 33 would be the most efficient way to enhance safety.

We estimate that no incremental costs are associated with this proposal. Our review of turbine aircraft engine manufacturers revealed that they currently design their engines to meet the standards of CS–E 640 Pressure Loads. Since our proposed rule would adopt this standard, manufacturers would incur no additional costs resulting from this proposal, if adopted as a final rule.

By creating common part 33 and EASA requirements, turbine engine manufacturers would only need to design to one certification standard. We did not attempt to quantify the cost savings from this specific proposal, but note that harmonization in this area would contribute to the overall savings that certification to one standard provides. We have also concluded that further analysis is not required because turbine engine manufacturers are already designing to the CS–E 640 Pressure Loads standard that this document proposes.

This expected outcome of this proposal would be a minimal impact with positive net benefits. Therefore, a complete regulatory evaluation was not prepared. The FAA requests comments with supporting justification about the FAA determination of minimal impact.

In view of the above, we determined that this proposed rule is not a ''significant regulatory action'' as defined in section 3(f) of Executive Order 12866, and is not ''significant'' as defined in DOT's Regulatory Policies and Procedures.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes ''as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration.'' The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

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

However, if an agency determines that a rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

We believe that this proposed rule would not have a significant economic impact on a substantial number of small entities. We identified six companies that produce civil turbine aircraft engines in the United States. Only one, Williams International, is a small entity. The other five U.S. turbine aircraft engine manufacturers exceed the Small Business Administration small entity criteria of 1,000 employees for North American Industrial Classification 2002

(NAICS 2002)—No. 336412, Aircraft Engine and Engine Parts Manufacturing. See the following table.

U.S. CIVIL AIRCRAFT TURBINE ENGINE MANUFACTURERS AND NUMBER OF EMPLOYEES

Number	Manufacturer	Parent company	Number of employees
1	GE Aviation Commercial Engines.	General Electric Co	316,000 (Dec. 31, 2005) Source: *www.Hoovers.com.* Accessed: Feb. 12, 2007.
2	Honeywell Aerospace	Honeywell International Inc	116,000 (Dec. 31, 2005) Source: *www.Hoovers.com.* Accessed: Feb. 12, 2007.
3	International Aero Engines (IAE).	Consortium, incorporated in Switzerland. Owned by: Pratt & Whitney; Rolls-Royce; Japanese Aero Engines Corporation; & MTU Aero Engines.	> 1,000, Pratt & Whitney and Rolls-Royce both employ more than 1,000 people. Therefore, IAE is not a small entity.
4	Pratt & Whitney	United Technologies Corporation	222,200 (Dec. 31, 2005) Source: *www.Hoovers.com.* Accessed: Feb. 12, 2007.
5	Rolls-Royce North America.	Rolls-Royce Group plc	35,600 (Average Weekly, 2005) Source: *www.Hoovers.com.* Accessed: Feb. 12, 2007.
6	Williams Intl		600 (Dec. 31, 2004) Source: *www.Gale.com.* Accessed: Feb. 13, 2007.

We expect the proposed rule to have, at most, a minor effect on the existing U.S. manufacturers because they are already meeting the proposed rule's requirements.

Therefore the FAA certifies that this proposed rule would not have a significant economic impact on a substantial number of small entities. The FAA solicits comments regarding this determination.

Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39) prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this proposed rule and has determined that it is in accord with the Trade Agreements Act as the proposed rule uses European standards as the basis for U.S. regulations.

Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of $100 million or more (adjusted annually for inflation with the base year 1995) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a ''significant regulatory action.'' The FAA currently uses an inflation-adjusted value of $128.1 million in lieu of $100 million.

This proposed rule does not contain such a mandate.

Executive Order 13132, Federalism

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

Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this proposed rulemaking action qualifies for the categorical exclusion identified in Chapter 3, paragraph 312d and involves no extraordinary circumstances.

Regulations that Significantly Affect Energy Supply, Distribution, or Use

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

Additional Information

Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data.

We will file in the docket all comments we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. The docket is available for public inspection before and after the comment closing date. If you wish to review the docket in person, go to the address in the **ADDRESSES** section of this preamble between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. You may also review the docket using the Internet at the web address in the **ADDRESSES** section.

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 by sending a request to the Federal Aviation Administration, Office of Rulemaking,

ARM–1, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267–9680. Make sure to identify the docket number, notice number, or amendment number of this rulemaking.

List of Subjects in 14 CFR Part 33

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend part 33 of Title 14 Code of Federal Regulations (14 CFR part 33) as follows:

PART 33—AIRWORTHINESS STANDARDS: AIRCRAFT ENGINES

1. The authority citation for part 33 continues to read as follows:

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

2. Add § 33.64 to Subpart E to read as follows:

§ 33.64 Pressurized engine static parts.

(a) Strength. The applicant must establish by test, validated analysis, or a combination of both, that all static parts subject to significant gas or liquid pressure loads for a stabilized period of one minute will not:

(1) Exhibit permanent distortion beyond serviceable limits or exhibit leakage that could create a hazardous condition when subjected to the greater of the following pressures:

(i) 1.1 times the maximum working pressure;

(ii) 1.33 times the normal working pressure; or

(iii) 35 kPa (5 PSI) above the normal working pressure.

(2) Exhibit fracture or burst when subjected to the greater of the following pressures:

(i) 1.15 times the maximum possible pressure;

(ii) 1.5 times the maximum working pressure; or

(iii) 35 kPa (5 PSI) above the maximum possible pressure.

(b) Compliance with this section must take into account:

(i) The operating temperature of the part;

(ii) Any other significant static loads in addition to pressure loads;

(iii) Minimum properties representative of both the material and the processes used in the construction of the part; and

(iv) Any adverse geometry conditions allowed by the type design.

Issued in Washington, DC, on August 30, 2007.

John J. Hickey,

Director, Aircraft Certification Service.

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