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FAA-2002-6411-52

[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 21

[Docket No. FAA-1999-6411; Amendment No. 21-XX]

AH85

RIN 2120-XXXX

EP 8/30/02

DEPT. OF TRANSPORTATION  
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Equivalent Safety Provisions for Fuel Tank System Fault Tolerance Evaluations  
(SFAR 88)

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments

SUMMARY: This final rule adds a provision to the existing requirements for fuel tank system fault tolerance evaluations that allows type certificate holders to use equivalent safety provisions for demonstrating compliance. The current regulations do not provide such provisions. This rulemaking will allow current certificate holders to use the same equivalent safety provisions already available to applicants for new or changed type design approvals.

DATES: This final rule is effective [upon issuance]. Comments must be submitted on or before [insert a date <sup>30</sup> ~~XX~~ days after publication in the Federal Register].

X

ADDRESSES: Address your comments to the Docket Management System, U.S.

Department of Transportation, Room Plaza 401, 400 Seventh Street, SW., Washington, DC 20590-0001. You must identify the docket number FAA-1999-6411 at the beginning of your comments, and you should submit two copies of your comments. If you wish to

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receive confirmation that FAA received your comments, include a self-addressed, stamped postcard.

You may also submit comments through the Internet to <http://dms.dot.gov>. You may review the public docket containing comments to these proposed regulations in person in the Dockets Office between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. The Dockets Office is on the plaza level of the NASSIF Building at the Department of Transportation at the above address. Also, you may review public dockets on the Internet at <http://dms.dot.gov>.

**FOR FURTHER INFORMATION CONTACT:** Mike Dostert, Transport Airplane Directorate, Propulsion/Mechanical Systems Branch, ANM-112, Federal Aviation Administration, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (425) 227-2132.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

This final rule is being adopted without prior notice and prior public comment. The Regulatory Policies and Procedures of the Department of Transportation (DOT) (44 FR 1134, February 26, 1979), however, provide that, to the maximum extent possible, operating administrations for the DOT should provide an opportunity for public comment on regulations issued without prior notice. Accordingly, 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 this amendment. The most helpful comments reference a

specific portion of the amendment, explain the reason for any recommended changes, and include supporting data. We ask that you send us two copies of written comments.

We will file in the docket all comments we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this 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.

The FAA will consider all comments received on or before the closing date for comments. Late filed comments will be considered to the extent practicable. This final rule may be amended in light of the comments received.

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

#### **Availability of Final Rule**

You can get an electronic copy of this final rule using the Internet by taking the following steps:

- (1) Go to the search function of the Department of Transportation's electronic Docket Management System (DMS) web page (<http://dms.dot.gov/search>).
- (2) On the search page type in the last four digits of the Docket number shown at the beginning of this final rule. Click on "search."
- (3) On the next page, which contains the Docket summary information for the Docket you selected, click on the final rule.

You can also get an electronic copy using the Internet through the Office of Rulemaking's web page at <http://www.faa.gov/avr/arm/nprm.cfm> or the Government Printing Office's web page at [http://www.access.gpo.gov/su\\_docs/aces/aces140.html](http://www.access.gpo.gov/su_docs/aces/aces140.html).

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

### **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. Any small entity that has a question regarding this document may contact their local FAA official, or the person listed under FOR FURTHER INFORMATION CONTACT. You can find out more about SBREFA on the Internet at our site, <http://www.gov/avr/arm/sbrefa.htm>. For more information on SBREFA, e-mail us at [9-AWA-SBREFA@faa.gov](mailto:9-AWA-SBREFA@faa.gov).

### **Background**

#### Amendment 25-102 and SFAR 88

Following the 1996 TWA 800 accident, which was caused by an explosion in the center wing fuel tank, the FAA promulgated rulemaking to establish several new transport airplane fuel tank safety requirements (66 FR 23086, May 7, 2001). The rulemaking, which was effective June 6, 2001, included:

- Amendment 21-78 (SFAR 88) which requires type certificate (TC) and supplemental type certificate (STC) holders to conduct a revalidation of the fuel tank system designs on the existing fleet of transport category airplanes carrying 30 or more passengers or a payload of 7,500 lbs. or more; and to develop all design changes required to demonstrate they meet the new ignition prevention requirements and develop fuel tank maintenance and inspection instructions,
- Amendments 91-266, 121-282, 125-36, and 129-30, which require certain operators to incorporate FAA-approved fuel tank maintenance and inspection requirements into their maintenance or inspection programs, and
- Amendment 25-102, which includes ignition prevention design and maintenance requirements (§ 25.981(a) & (b) and paragraph H25.4 of appendix H), and fuel tank flammability requirements (§ 25.981(c)).

#### Discussion of SFAR 88 and this Amendment

SFAR 88 requires that holders of type certificates and supplemental type certificates review the designs of fuel tank systems of large transport category airplanes, and develop design changes and maintenance and inspection programs based on the findings of those reviews. The reviews are conducted using the identical ignition prevention requirements that were adopted for new or amended type designs in § 25.981. Reports documenting compliance are required to be submitted to the FAA by December 6, 2002.

During initial implementation of the rule, the FAA learned that mandating all the design changes required to meet the new safety assessment requirements of Amendment 25-102 for in-service airplanes, as required by SFAR 88, may not be needed to achieve the safety level intended by the rule. For example, the SFAR requires that design changes be developed to comply with the new design standard, § 25.981, which in turn requires that all possible ignition sources be eliminated from fuel systems. In the final rule preamble, we said that these design changes would be mandated by airworthiness directive (AD); however, ADs are issued only when we find an unsafe condition. This means that in some cases the SFAR would require development of design changes to address problems that are not serious enough (e.g., because of very low probabilities of occurrence) to warrant issuance of an AD. This result would be consistent with existing FAA policy that non-compliance with certification requirements is not by itself sufficient to establish an unsafe condition. The existing rule results in an unnecessary and inappropriate burden on industry to develop design changes that would never be required to be implemented. The cost of developing these changes would, therefore, not result in an improvement in safety and may divert resources needed to develop design changes that will be mandated via AD.

This new amendment will allow certificate holders to propose other means of demonstrating equivalent safety. For example, in the preamble to Amendment 25-102, the FAA discussed a change in philosophy regarding fuel tank safety. Data from past accidents indicated reduced fuel tank flammability, in combination with prevention of ignition sources, would provide the needed level of safety. Section 25.981(c) requires that fuel tank flammability be minimized.

The flammability level required by § 25.981(c) was based on the report of a 1998 industry advisory group that determined the flammability exposure of an unheated aluminum wing tank would provide an acceptable level of safety for all transport airplane fuel tanks. At the time of the rulemaking, however, the FAA did not have data to support rulemaking to require reduced fuel tank flammability on in-service airplanes. Since the rulemaking, FAA research into nitrogen inerting systems has shown that the practicality of incorporating nitrogen inerting systems into in-service airplanes has significantly improved. Type certificate holders may therefore wish to propose use of reduced fuel tank flammability to mitigate the need to make other more costly changes or implement expensive maintenance actions to prevent certain fuel tank ignition sources. This rulemaking will allow the FAA to consider these proposals that may well provide a better long-term solution to the fuel tank safety issues than that of ignition source prevention alone, as is currently required by SFAR 88.

The SFAR applies to two groups: current TC holders and applicants whose TC applications were pending on June 6, 2001, the SFAR's effective date. (All subsequent applicants are subject to the new part 25 standard.) [Note: In this discussion, STC holders are included in the term TC holders.] For TC applicants, the problem described above can be resolved under existing regulations. Specifically, § 21.21(b)(1) provides that the FAA can issue a TC if we find that standards "not complied with are compensated for by factors that provide an equivalent level of safety." For example, an applicant for a TC whose application was submitted prior to June 6, 2001 (for which the flammability requirements of § 25.981(c) would not normally apply), may propose incorporation of a fuel tank nitrogen inerting system to provide an equivalent level of safety to certain

portions of the fuel tank ignition source prevention requirements of Amendment 25-102 to § 25.981.

Since § 21.21 only applies to the issuance of TCs, this “equivalent safety” provision does not apply to current TC holders. Because this type of provision is needed for existing TCs at least as much as for pending applications, an immediately adopted “spot amendment” to the SFAR is necessary. This amendment adds a new provision to the SFAR that allows the FAA to approve a TC holder’s required submission based on a finding that it provides an equivalent level of safety to full compliance with the SFAR. It would therefore provide a “level playing field” between pending applicants and current holders of TCs.

In originally adopting the SFAR, we anticipated neither the need for this provision, nor the difference in treatment between TC applicants and holders. Given the impending compliance deadline later this year, it would not be practicable to complete this rulemaking following notice and comment procedures in sufficient time to provide a meaningful alternative to TC holders. Good cause therefore exists for issuing this amendment without following those procedures.

Since this rule would simply make available to all persons subject to the SFAR an alternative that is currently available only to some, it is not “significant” for purposes of Executive Order 12866, DOT Regulatory Policies and Procedures, or the Regulatory Flexibility Act, and it does not require preparation of a regulatory evaluation.

#### **Paperwork Reduction Act**

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

## **International Compatibility**

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

## **Good Cause for Immediate Adoption**

Sections 553(b)(3)(B) and 553(d)(3) of the Administrative Procedures Act (APA) (5 U.S.C. Sections 553(b)(3)(B) and 553(d)(3)) authorize agencies to dispense with certain notice procedures for rules when they find “good cause” to do so. Under section 553(b)(3)(B), the requirements of notice and opportunity for comment do not apply when the agency for good cause finds that those procedures are “impracticable, unnecessary, or contrary to the public interest.” Section 553(d)(3) allows an agency, upon finding good cause, to make a rule effective immediately, thereby avoiding the 30-day delayed effective date requirement in section 553.

The FAA finds that notice and public comment on this final rule are impracticable, unnecessary, and contrary to the public interest. For certificate holders to have sufficient time to take advantage of the alternative compliance methods allowed by this rule before the compliance deadline of December 6, 2002, this rule must be adopted immediately. Notice and comment procedures would delay its adoption to the point where the rule would be of little value to them, thereby defeating the purpose of this rule. Therefore, notice and comment procedures are impracticable. Furthermore, as explained previously,

this rule simply makes available to current certificate holders an alternative that is already provided to current certificate applicants by 14 CFR 21.21(b)(1).

**Economic Evaluation, Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Assessment**

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs each Federal agency to 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 requires agencies to analyze the economic impact 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 requires agencies to consider international standards and, where appropriate, use them as the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually (adjusted for inflation.)

In conducting these analyses, the FAA has determined this rule (1) has benefits which justify its costs; (2) 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; (3) will not have a significant impact on a substantial number of small

entities; (4) will have little effect on international trade; and (5) does not impose an unfunded mandate on state, local, or tribal governments, or on the private sector.

For regulations with an expected minimal impact, the above-specified analyses are not required. The Department of Transportation Order DOT 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 proposal does not warrant a full evaluation, a statement to that effect and the basis for it is included in the proposed regulation. The FAA has determined that there are no costs associated with this final rule and the current level of safety is maintained. Instead, this rule change relieves holders of existing TCs from a cost that would have been inadvertently imposed on them in the adoption of the 2001 SFAR. This change effectuates the original intent of the 2001 SFAR.

### **Regulatory Flexibility Act**

The Regulatory Flexibility Act of 1980 (RFA) establishes “as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, 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 RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

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

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

This action will relieve unnecessary costs to holders of existing TCs. The FAA therefore expects this rule to impose no cost on small entities. Consequently, the FAA certifies that the 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 engaging in any standards or 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 rulemaking and has determined that it will reduce costs on holders of existing TCs and will have a minimal effect on international trade

#### **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 a \$100 million or more expenditure (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; therefore, the requirements of Title II of the Unfunded Mandates Reform Act of 1995 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. We therefore determined that this final rule does not have federalism implications.

#### **Plain English**

Executive Order 12866 (58 FR 51735, Oct. 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 in the regulation clearly stated?
- Does the regulation contain technical language or jargon that interferes with their clarity?
- Would the regulation be easier to understand if it was divided into more (but shorter) sections?
- Is the description in the preamble helpful in understanding the regulation?

Please send your comments to the address specified in the ADDRESSES section.

## 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 rulemaking action qualifies for a categorical exclusion.

## Energy Impact

The energy impact of the final rule has been assessed in accordance with the Energy Policy and Conservation Act (EPCA), Pub. L. 94-163, as amended (42 U.S.C. 6362), and FAA Order 1053.1. It has been determined that the final rule is not a major regulatory action under the provisions of the EPCA.

## List of Subjects

### *14 CFR Part 21*

Aircraft, Aviation safety, Reporting and recordkeeping requirements

## The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends part 21 of Title 14, Code of Federal Regulations, as follows:

### **PART 21 – CERTIFICATION PROCEDURES FOR PRODUCTS AND PARTS**

1. The authority citation for part 21 continues to read:

**Authority:** 42 U.S.C. 7572; 40105, 40113; 44701-44702, 44707, 44709, 44711, 44713, 44715, and 45303.

2. SFAR No. 88<sup>in</sup> is amended by ~~revising~~ the introductory text of paragraph 2 and by adding a new paragraph 2(d) to read as follows:

*as follows*  
*8P 8/4/02*  
*by adding the words "except as provided in Paragraph (d) of this section" after the word "Compliance:"*

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SFAR No. ~~88-1~~ – Fuel Tank System Fault Tolerance Evaluation Requirements

\* \* \* \* \*

2. Compliance: Except as provided in paragraph (d) of this section \* \* \*

\* \* \* \* \*

(d) The Aircraft Certification Office (ACO), or office of the Transport Airplane Directorate, having cognizance over the type certificate for the affected airplane, may approve a report submitted in accordance with paragraph 2(c) if it determines that any provisions of this SFAR not complied with are compensated for by factors that provide an equivalent level of safety.

Issued in Washington, DC, on AUG 30 2002

*Mante R. Belger*  
Administrator