[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 21, 25, 121, and 129

[Docket No. FAA-2011-0186; Amdt. Nos. 21-94, 25-133, 121-354, 129-50; SFAR 111]

RIN 2120-AJ92

Security Considerations for Lavatory Oxygen Systems

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Interim final rule; disposition of comments.

SUMMARY: On March 8, 2011, the FAA published an interim final rule, request for comments (Amendment Nos. 21-94, 25-133, 121-354, 129-50; SFAR 111) on security considerations for lavatory oxygen systems (77 FR 12550). The interim final rule addresses a security vulnerability and is needed so the affected airplanes can continue operating until the non-compliance to airworthiness standards and operating rules is resolved. We sought public comment on the interim final rule even though it became effective upon publication. This action responds to the public comments the FAA received.

ADDRESSES: You may review the public docket for this rulemaking (Docket No. FAA-2011-0186) at the Docket Management Facility in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, 20590-0001 between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. You may also review the public docket on the Internet at http://www.regulations.gov.

FOR FURTHER INFORMATION CONTACT: For technical questions concerning this action, contact Jeff Gardlin, Airframe and Cabin Safety Branch, ANM-115, Transport Airplane

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For legal questions concerning this action, contact Douglas Anderson, Federal Aviation Administration, Office of the Regional Counsel, ANM-7, Northwest Mountain Region, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone: (425) 227-2166; e-mail: douglas.anderson@faa.gov.

SUPPLEMENTARY INFORMATION

Background

The FAA became aware of a security vulnerability with certain types of oxygen systems installed inside the lavatories of most transport category airplanes. As a result, the FAA issued Airworthiness Directive (AD) 2011-04-09, which mandated that these oxygen systems be rendered inoperative until the vulnerability could be eliminated. However, by completing the mandated actions in AD 2011-04-09, operators were no longer in compliance with the requirements of Title 14, Code of Federal Regulations (14 CFR) §§ 25.1447, 121.329, and 121.333, and could not legally continue flight operations. AD 2011-04-09 also affects newly manufactured airplanes and airplanes undergoing other modification. The Special Federal Aviation Regulation (SFAR) is needed to address the security vulnerability and allow the affected operators to continue flight operations until the non-compliance to airworthiness standards and operating rules created by the AD is resolved.

The FAA chartered an Aviation Rulemaking Committee (ARC) primarily comprised of industry representatives in March 2011. The ARC's purpose was to recommend regulatory changes and guidance that could be used to restore oxygen in affected lavatories while

addressing the security vulnerability. The ARC submitted its recommendations to the FAA on August 3, 2011. The FAA is reviewing the recommendations and will initiate additional rulemaking as necessary. The recommendations will facilitate developing future rulemaking to address existing and new certifications of aircraft. As stated in SFAR 111, we envision a two- to four-year regulatory process to restore the affected oxygen systems to their full operational capability. Complete restoration includes any new regulatory changes, as well as incorporating any new oxygen system designs into airplanes currently in service.

Discussion of Comments

The FAA received comments from ten commenters: Aerox Aviation Oxygen Systems, Inc., The Boeing Company, and eight private citizens. Boeing and three citizens supported the SFAR with the overall assertion that removing chemical oxygen generators from the lavatories poses a risk to a small number of passengers compared to putting all of the passengers on the airplane at risk by keeping the chemical oxygen generators installed.

Five citizens opposed the SFAR, asserting that the safety benefit gained by removing the chemical oxygen system from lavatories to preclude the unlikely event of a terrorist attack does not outweigh the potential risk of individual passengers experiencing hypoxia in the event of a decompression. These commenters also suggested that the FAA consider other options, such as installing an alternative oxygen system in the lavatories, rather than simply removing the chemical oxygen system.

We disagree with the commenters' assertion that the potential risk of a security breach is outweighed by the potential individual risk of hypoxia for a passenger in the lavatory during cabin decompression. We continue to believe that the approach taken by the FAA—to temporarily allow a non-compliance with existing regulations until a solution is found to the

problem identified in the underlying AD—appropriately addresses risk. While there is some risk of hypoxia, the emergency descent procedures initiated by the flightcrew are the primary protection against hypoxia provided to passengers.

Pressure loss events have not resulted in a cabin pressure altitude that was instantaneously equal to the airplane altitude. Even when decompressions have occurred when the airplane is at a high altitude, such as 40,000 feet, cabin occupants have not been exposed to those altitudes because it takes time for the cabin pressure to leak from the fuselage. Flightcrews initiate an emergency descent shortly after they receive notification that the cabin pressure cannot be maintained. The airplane is already descending by the time the internal cabin pressure is equal to the airplane altitude.

We carefully considered all of the variables and determined that the risk to all of the passengers due to the security vulnerability was significantly greater than the potential individual risk of hypoxia in the event of cabin decompression. AD 2011-04-09 and SFAR 111 are only interim measures, and we are actively pursuing regulatory changes intended to restore supplemental oxygen in the affected lavatories, while considering the security issues.

We partially agree with the commenters' suggestions to consider other rulemaking alternatives because other alternatives could be used to restore oxygen in the affected lavatories. We disagree with the commenters' suggestions to accomplish longer-term rulemaking actions while leaving the chemical oxygen generators installed in the lavatories. The security vulnerability would remain until final corrective actions were identified and completed. Accomplishing the actions in AD 2011-04-09 eliminates the security vulnerability until additional actions can be identified and taken to restore the oxygen system with a design that would consider the security risk.

Boeing stated that in and of itself, the SFAR does not require removing or expending the contents of the chemical oxygen generators. This will likely cause confusion and is not consistent with the actions in AD 2011-04-09. Boeing recommended that the SFAR be revised to require the oxygen generators to be either removed or expended and that the wording be the same as that in the AD; we disagree. The affected chemical oxygen generators have already been removed or expended in accordance with AD 2011-04-09, and the SFAR does not supersede AD 2011-04-09. The SFAR provides interim relief to operators from type design requirements that the operators would have been out of compliance with once the actions mandated in AD 2011-04-09 were completed. No changes to SFAR 111 were made as a result of this comment.

Boeing also suggested that the SFAR be clarified to allow the applicant for a type certificate to receive a production certificate and an airworthiness approval for domestic operators affected by AD 2011-04-09 (14 CFR part 121 operators) or for foreign operators (14 CFR part 129) in countries where the local civil aviation authority has issued a mandatory action equivalent to AD 2011-04-09. We infer that Boeing is requesting we clarify SFAR 111 for airplanes registered outside the United States because only foreign registered airplanes could be subject to a mandatory action similar to AD 2011-04-09. We disagree because SFAR 111 does not apply to airplanes registered outside the United States. We cannot provide relief from airworthiness standards issued by civil aviation authorities in other countries. The responsible civil aviation authority must grant relief from an airworthiness standard. Furthermore, SFAR 111, paragraph (b)(2) already provides this relief for airplanes registered in the United States but operated by foreign carriers. No changes were made to the SFAR as a result of this comment.

Boeing suggested paragraph (c) of the SFAR be revised to indicate that it is the operators' responsibility to provide flightcrew training procedures for airplanes with a disabled lavatory oxygen system. We disagree that this clarification is necessary because the SFAR does not include a requirement to revise existing flightcrew training procedures. Operators currently have the option to add or revise existing training for the cabin or flightcrew as they deem necessary. No changes were made to the SFAR as a result of this comment.

Aerox Aviation provided information pertaining to the availability of a small portable, gaseous oxygen supply and stated that such equipment could provide an emergency oxygen supply. We are familiar with the Aerox portable oxygen equipment as well as other portable oxygen equipment from other suppliers. It is possible for operators to incorporate installation of portable gaseous oxygen equipment for use in the lavatory under existing regulations. If such equipment were to be installed, it would need to be approved by the FAA in accordance with existing procedures applicable to type design changes. Neither AD 2011-04-09 nor SFAR 111 would prevent installation of portable gaseous oxygen equipment for use in the lavatory. No changes were made to the SFAR as a result of this comment.

Conclusion

After analyzing the comments submitted in response to SFAR 111, the FAA has determined that no further revisions to the SFAR are necessary at this time. The FAA determined this interim rule remains necessary because it addresses an emergency safety situation that made it imperative to immediately implement the rulemaking's provisions. While the chemical oxygen supply is intended to provide passengers with supplemental oxygen when necessary, lavatories become privately enclosed areas when in use. Possible tampering with that

chemical oxygen supply presented a security vulnerability that this rulemaking addresses. Therefore, Amendments 21-94, 25-133, 121-354, and 129-50 remain in effect.

The FAA is currently assessing the recommendations of the ARC discussed above. We are using these recommendations to develop additional rulemaking actions that will restore the affected oxygen systems to their full operational capability in existing and new certifications of affected aircraft, while eliminating the potential security threat posed by the previous systems.

Issued in Washington, DC on February 15, 2012.

Frank P. Paskiewicz
Deputy Director, Aircraft Certification Service

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