• *ALPA Comment re Special Condition (8):* Finally, ALPA commented on monitoring and warning features that will indicate when the state-of-charge of the batteries has fallen below levels considered acceptable for dispatch of the airplane. The commenter suggested that the special conditions address the location of the warning indication; whether it is displayed to the captain, the crew, or both; and the training to be incorporated in the crew training programs.

FAA Response: Flight deck warning indicators associated with the state-of-charge of the lithium ion battery and appropriate training of the crew will be addressed during certification as part of the flight deck evaluation. As required by § 25.1309(c), this evaluation will ensure that the warning indication is effective and appropriate for the hazard. We made no change as a result of this comment.

These special conditions are issued as proposed.

Applicability

As discussed above, these special conditions are applicable to the 787. Should Boeing apply at a later date for a change to the type certificate to include another model on the same type certificate incorporating the same novel or unusual design features, these special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features of the 787. It is not a rule of general applicability.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

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

The Special Conditions

■ Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for the Boeing Model 787–8 airplane.

In lieu of the requirements of 14 CFR 25.1353(c)(1) through (c)(4), the following special conditions apply. Lithium ion batteries on the Boeing Model 787–8 airplane must be designed and installed as follows:

(1) Safe cell temperatures and pressures must be maintained during any foreseeable charging or discharging condition and during any failure of the charging or battery monitoring system not shown to be extremely remote. The lithium ion battery installation must preclude explosion in the event of those failures.

(2) Design of the lithium ion batteries must preclude the occurrence of self-sustaining, uncontrolled increases in temperature or pressure.

(3) No explosive or toxic gases emitted by any lithium ion battery in normal operation, or as the result of any failure of the battery charging system, monitoring system, or battery installation not shown to be extremely remote, may accumulate in hazardous quantities within the airplane.

(4) Installations of lithium ion batteries must meet the requirements of 14 CFR 25.863(a) through (d).

(5) No corrosive fluids or gases that may escape from any lithium ion battery may damage surrounding structure or any adjacent systems, equipment, or electrical wiring of the airplane in such a way as to cause a major or more severe failure condition, in accordance with 14 CFR 25.1309(b) and applicable regulatory guidance.

(6) Each lithium ion battery installation must have provisions to prevent any hazardous effect on structure or essential systems caused by the maximum amount of heat the battery can generate during a short circuit of the battery or of its individual cells.

(7) Lithium ion battery installations must have a system to control the charging rate of the battery automatically, so as to prevent battery overheating or overcharging, and,

(i) A battery temperature sensing and over-temperature warning system with a means for automatically disconnecting the battery from its charging source in the event of an over-temperature condition, or,

(ii) A battery failure sensing and warning system with a means for automatically disconnecting the battery from its charging source in the event of battery failure.

(8) Any lithium ion battery installation whose function is required for safe operation of the airplane must incorporate a monitoring and warning feature that will provide an indication to the appropriate flight crewmembers whenever the state-of-charge of the batteries has fallen below levels considered acceptable for dispatch of the airplane.

(9) The Instructions for Continued Airworthiness required by 14 CFR 25.1529 must contain maintenance requirements for measurements of battery capacity at appropriate intervals to ensure that batteries whose function is required for safe operation of the airplane will perform their intended function as long as the battery is installed in the airplane. The Instructions for Continued Airworthiness must also contain procedures for the maintenance of lithium ion batteries in spares storage to prevent the replacement of batteries whose function is required for safe operation of the airplane with batteries that have experienced degraded charge retention ability or other damage due to prolonged storage at a low state of charge.

Note: These special conditions are not intended to replace 14 CFR 25.1353(c) in the certification basis of the Boeing 787–8 airplane. These special conditions apply only to lithium ion batteries and their installations. The requirements of 14 CFR 25.1353(c) remain in effect for batteries and battery installations of the Boeing 787–8 airplane that do not use lithium ion batteries.

Issued in Renton, Washington, on September 28, 2007.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7–19980 Filed 10–10–07; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM366 Special Conditions No. 25–348–SC]

Special Conditions: Boeing Model 787–8 Airplane; Composite Wing and Fuel Tank Structure—Fire Protection Requirements

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions.

SUMMARY: These special conditions are issued for the Boeing Model 787–8 airplane. This airplane will have novel or unusual design features when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. These novel or unusual design features are associated with composite materials chosen for the construction of the fuel tank skin and structure. For these design features, the applicable airworthiness regulations do not contain adequate or appropriate safety standards for wing and fuel tank structure with respect to postcrash fire safety. These special conditions contain the additional safety standards that the Administrator considers necessary to

establish a level of safety equivalent to that established by the existing standards. We will issue additional special conditions for other novel or unusual design features of the Boeing Model 787–8 airplanes.

DATES: *Effective Date:* November 13, 2007.

FOR FURTHER INFORMATION CONTACT: Mike Dostert, FAA, Propulsion/Mechanical Systems, ANM–112, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue, SW., Renton, Washington 98057–3356; telephone (425) 227–2132; facsimile (425) 227–1320.

SUPPLEMENTARY INFORMATION:

Background

On March 28, 2003, Boeing applied for an FAA type certificate for its new Boeing Model 787–8 passenger airplane. The Boeing Model 787–8 airplane will be an all-new, two-engine jet transport airplane with a two-aisle cabin. The maximum takeoff weight will be 476,000 pounds, with a maximum passenger count of 381 passengers.

Type Certification Basis

Under provisions of Title 14 Code of Federal Regulations (CFR) 21.17, Boeing must show that Boeing Model 787–8 airplanes (hereafter referred to as ''the 787'') meet the applicable provisions of 14 CFR part 25, as amended by Amendments 25–1 through 25–117, except §§ 25.809(a) and 25.812, which will remain at Amendment 25–115. If the Administrator finds that the applicable airworthiness regulations do not contain adequate or appropriate safety standards for the 787 because of a novel or unusual design feature, special conditions are prescribed under provisions of 14 CFR 21.16.

In addition to the applicable airworthiness regulations and special conditions, the 787 must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of 14 CFR part 36. The FAA must also issue a finding of regulatory adequacy under section 611 of Public Law 92–574, the ''Noise Control Act of 1972.''

The FAA issues special conditions, as defined in 14 CFR 11.19, under § 11.38, and they become part of the type certification basis under § 21.17(a)(2).

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same or similar novel or unusual design feature, the special conditions would also apply to the other model under § 21.101.

Novel or Unusual Design Features

The 787 will incorporate a number of novel or unusual design features. Because of rapid improvements in airplane technology, the applicable airworthiness regulations do not contain adequate or appropriate safety standards for these design features. These special conditions for the 787 contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

The 787 will be the first large transport category airplane not built mainly with aluminum materials for the fuel tank structure. Instead it will use chiefly composite materials for the structural elements and skin of the wings and fuel tanks. Conventional airplanes with aluminum skin and structure provide a well understood level of safety during postcrash fires with respect to fuel tanks. This is based on service history and extensive full-scale fire testing. Composites may or may not have capabilities equivalent to aluminum, and current regulations do not provide objective performance requirements for wing and fuel tank structure with respect to postcrash fire safety. Use of composite structure is new and novel compared to the designs envisioned when the applicable regulations were written. Because of this, Boeing must present additional confirmation by test and analysis that the 787 provides an acceptable level of safety with respect to the performance of the wings and fuel tanks during an external fuel-fed fire.

Although the FAA has previously approved fuel tanks made of composite materials that are located in the horizontal stabilizer of some airplanes, the composite wing structure of the 787 will introduce a new fuel tank construction into service. Advisory Circular (AC) 20–107A, Composite Aircraft Structure, under the topic of flammability, states: ''The existing requirements for flammability and fire protection of aircraft structure attempt to minimize the hazard to the occupants in the event ignition of flammable fluids or vapors occurs. The use of composite structure should not decrease this existing level of safety.'' The relevance to the wing structure is that postcrash fire passenger survivability is dependent on the time available for passenger evacuation before fuel tank breach or structural failure. Structural failure can be a result of degradation in load-carrying capability in the upper or lower wing surface caused by a fuel-fed ground fire. Structural failure can also be a result of over-pressurization caused by ignition of fuel vapors in the fuel tank.

The FAA has historically developed rules with the assumption that the material of construction for wing and fuselage would be aluminum. As a representative case, § 25.963 was developed because of a large fuel-fed fire following the failures of fuel tank access doors caused by uncontained engine failures. During the subsequent Aviation Rulemaking Advisory Committee (ARAC) harmonization process with the JAA,[1] the structures group tried to harmonize the requirements of § 25.963 for impact and fire resistance of fuel tank access panels. Both authorities recognized that existing aluminum wing structure provided an acceptable level of safety. Further rulemaking has not yet been pursued.

As with previous Boeing airplane designs with underwing mounted engines, the wing tanks and center tanks are located in proximity to the passengers and near the engines. Experience indicates postcrash survivability is greatly influenced by the size and intensity of any fire that occurs. The ability of aluminum wing surfaces wetted by fuel on their interior surface to withstand postcrash fire conditions has been shown by tests conducted at the FAA Technical Center. These tests have verified adequate dissipation of heat across wetted aluminum fuel tank surfaces so that localized hot spots do not occur, thus minimizing the threat of explosion. This inherent capability of aluminum to dissipate heat also allows the wing lower surface to retain its load carrying characteristics during a fuel-fed ground fire. It significantly delays wing collapse or burn-through for a time interval that usually exceeds evacuation times. In addition, as an aluminum fuel tank is heated with significant quantities of fuel inside, fuel vapor accumulates in the ullage space, exceeding the upper flammability limit relatively quickly and thus reducing the threat of a fuel tank explosion prior to fuel tank burn-through. Service history of conventional aluminum airplanes has shown that fuel tank explosions caused

[1] The JAA is the Joint Aviation Authority of Europe and the JAR is its Joint Aviation Requirements, the equivalent of our Federal Aviation Regulations. In 2003, the European Aviation Safety Agency (EASA) was formed, and EASA is now the principal aviation regulatory agency in Europe. We intend to work with EASA to ensure that our rules are also harmonized with its Certification Specifications (CS). But since these efforts in developing harmonization of § 25.963 occurred before EASA was formed, it was the JAA that was involved with them.

by ground fires have been rare on airplanes configured with flame arrestors in the fuel tank vent lines. Fuel tanks constructed with composite materials may or may not have equivalent capability.

Current regulations were developed and have evolved under the assumption that wing construction would be of aluminum materials, which provide inherent properties. Current regulations may not be adequate when applied to airplanes constructed of different materials.

Aluminum has the following properties with respect to fuel tanks and fuel-fed external fires.

- Aluminum is highly thermally conductive. It readily transmits the heat of a fuel-fed external fire to fuel in the tank. This has the benefit of rapidly driving the fuel tank ullage to exceed the upper flammability limit prior to burn-through of the fuel tank skin or heating of the wing upper surface above the auto-ignition temperature. This greatly reduces the threat of fuel tank explosion.
- Aluminum panels at thicknesses previously used in wing lower surfaces of large transport category airplanes have been fire resistant as defined in 14 CFR part 1 and AC 20–135.
- The heat absorption capacity of aluminum and fuel will prevent burn-through or wing collapse for a time interval that will generally exceed the passenger evacuation time.

The extensive use of composite materials in the design of the 787 wing and fuel tank structure is considered a major change from conventional and traditional methods of construction. This will be the first large transport category airplane to be certificated with this level of composite material for these purposes. The applicable airworthiness regulations do not contain specific standards for postcrash fire safety performance of wing and fuel tank skin or structure.

Discussion of Special Conditions

In order to provide the same level of safety as exists with conventional airplane construction, Boeing must demonstrate that the 787 has sufficient postcrash survivability to enable occupants to safely evacuate in the event that the wings are exposed to a large fuel-fed fire. Factors in fuel tank survivability are the structural integrity of the wing and tank, flammability of the tank, burn-through resistance of the wing skin, and the presence of auto-ignition threats during exposure to a fire. The FAA assessed postcrash survival time during the adoption of Amendment 25–111 for fuselage burn-through protection. Studies conducted by and on behalf of the FAA indicated that, following a survivable accident, prevention of fuselage burn-through for approximately 5 minutes can significantly enhance survivability. (See report numbers DOT/FAA/AR–99/57 and DOT/FAA/AR–02/49.) There is little benefit in requiring the design to prevent wing skin burn-through beyond five minutes, due to the effects of the fuel fire itself on the rest of the airplane. That assessment was carried out based on accidents involving airplanes with conventional fuel tanks, and considering the ability of ground personnel to rescue occupants. In addition, AC 20–135 indicates that, when aluminum is used for fuel tanks, the tank should withstand the effects of fire for 5 minutes without failure. Therefore, to be consistent with existing capability and related requirements, the 787 fuel tanks must be capable of resisting a postcrash fire for at least 5 minutes. In demonstrating compliance, Boeing must address a range of fuel loads from minimum to maximum, as well as any other critical fuel load.

Discussion of Comments

Notice of Proposed Special Conditions No. 25–07–03–SC for the 787 was published in the **Federal Register** on April 9, 2007 (72 FR 17441). Two comments were received from the Air Line Pilots Association, International (ALPA), two from Airbus, and several from members of the public.

Comment 1—Air Line Pilots Association (ALPA). The Air Line Pilots Association, International questioned whether the 787 will be required to comply with any and all rules related to fuel tank inerting/flammability requirements of 14 CFR parts 25 and 121 and the guidance in Advisory Circular 25.981–2A.

FAA Response. The 787 will be required to meet the current requirements for the certification basis of the airplane that include fuel vapor flammability standards, and we will be proposing additional requirements within special conditions for a nitrogen inerting system. The certification basis for the 787 includes Amendment 25–102, which includes the § 25.981(c) requirement for minimization of fuel tank flammability. In the preamble to Amendment 25–102 we described the intended level of flammability to be equivalent to an unheated aluminum wing fuel tank. The composite fuel tank structure of the 787 does not inherently meet this flammability standard because of the difference in thermal conductivity between composite materials and aluminum. Boeing has proposed a design that includes a nitrogen inerting system to meet the flammability standard. Because of this novel and unique feature that provides nitrogen enriched air to all fuel tanks, we will be publishing proposed special conditions for public comment.

We have made no changes to these special conditions as a result of this comment.

Comment 2—ALPA. ALPA also commented that it is important to determine the characteristics of composites after prolonged exposure to moisture of any kind (humidity, liquid, deicing fluid, fuel etc.) and stated that the FAA must conduct or endorse research to determine whether composite materials are susceptible to absorbing liquids during prolonged exposure. The commenter also stated that research must be done to determine effects of water (or other liquid) intrusion on the aircraft weight, controllability, flammability, and survivability.

FAA Response. The FAA concurs with the concerns of the commenter and has discussed these items with the applicant. The existing airworthiness regulations for certification require that all parts and components be qualified for all foreseeable environmental conditions as installed on the airplane. Therefore, as part of the material certification and approval, the composite material is required to be subjected to accelerated environmental exposure to all liquids anticipated to be in contact with the material for the life of the aircraft. This includes but is not limited to water, salt spray, fuel, hydraulic fluid, and de-icing fluids. Any material effects due to this exposure testing will have to be considered in showing the material's ability to perform its intended function, including consideration for the life and performance of the material. These environmental qualifications are required by existing airworthiness regulations and are therefore not required to be included in the special conditions for composite structure. We have made no changes to these special conditions as a result of this comment.

Comment 3—Airbus. Airbus noted a reference in the proposed special conditions to testing conducted at the FAA Technical Center that demonstrated aluminum fuel tank performance under postcrash fire conditions. The commenter requested access to the documentation for review of the test data to understand the applied conditions and parameters of the test.

FAA Response. The noted reports are available to the public via the FAA

Technical Center Website for Fire Safety at *http://www.fire.tc.faa.gov/*. The document we were referring to in the proposed special conditions was document FAA–RD–75–119, *Investigation of Aircraft Fuel Tank Explosions and Nitrogen Inerting Requirements During Ground Fires*. We have made no changes to these special conditions as a result of this comment.

Comment 4—Airbus. Airbus also requested clarification of the following statement on page 17443 of the **Federal Register**, under the heading ''Discussion of Proposed Special Conditions:'' * * * AC 20–135 indicates that, when aluminum is used for fuel tanks, the tank should withstand the effects of fire for 5 minutes without failure.'' Airbus said this statement needed clarification, because the actual language in the AC discusses fire resistance of a number of elements, but does not consider the fuel tank as a whole.

FAA Response. The commenter is correct that AC 20–135 does not specifically refer to demonstrating that the fuel tank as a whole is fire resistant. In the past fuel tanks have typically been constructed of aluminum, which is considered to be fire resistant. AC 20–135 provides general guidance on how materials can be shown to be fire resistant if they can withstand the effects of fire for 5 minutes. These special conditions require that the fuel tank be shown to meet fire resistance standards and one means of showing a material meets these standards is described in the AC. Since the fuel tank is constructed of composite materials, we consider the guidance in the AC to be applicable to the fuel tank as a whole. We've made no change to these special conditions as a result of this comment.

The following four comments, received from the public, were outside the scope of these special conditions.

Comment 5. One commenter requested that the FAA and foreign authorities pursue rulemaking activities to develop specific rules related to use of composite materials for basic airframe structure.

FAA Response. Although this comment does not address the context of these special conditions, we agree that current transport category rules do not adequately address the unique aspects of composite structure. These special conditions, and others for the 787 and other certification projects involving composite structure, are the first steps in establishing new airworthiness standards. We anticipate that these special conditions will be followed by rulemaking activity to establish similar standards in the applicable sub-parts of part 25. The FAA cannot comment on the position of other foreign authorities in this regard. No change to the special conditions is required.

Comment 6. This commenter also requested that the scope of the special conditions be expanded to include evaluation of the fuselage, wing, and fuel tank to simulate actual survivable crash conditions during a fuel fed fire with respect to fire, smoke, and toxicity and passenger survivability. The commenter requested that the special conditions address fire, smoke, and toxicity environments within the fuselage interior during an external fuel fed fire.

FAA Response. While we agree with the commenter that these are important considerations, the FAA has determined that this comment is outside the scope of these special conditions because they are limited to performance of the wing and fuel tank structure during a postcrash ground fire. The performance of the fuselage barrel and interiors during a fuel-fed fire is already addressed by existing regulations (reference 14 CFR 25.853, 25.855, and 25.856 and Appendix F for current standards for airplane interior fire safety). We have determined that existing regulations for a fuel-fed external fire are adequate to address cabin interiors, including those issues suggested by the commenter, and special conditions are not warranted. In addition, while full scale fire tests of the wing and fuselage were considered by the FAA, we determined that requiring a large scale fire test could be overly prescriptive. The means of complying with the objectives of these special conditions will be reviewed and approved by the FAA. In addition, although the performance standards for the wing and fuselage were developed independently, they have a common objective of preserving the current level of safety provided by aluminum airplanes. After reviewing this comment, we have determined that no change to the special conditions is required.

Comment 7. This commenter has noted that burn-through tests at the component level do not address high lateral fire burning rates or fire and smoke ingress into the cabin. The commenter suggested testing should be expanded to include a full scale fire test of a fuselage barrel section with all exits opened and slides deployed throughout the test.

FAA Response. The FAA has determined that the requirements for the smoke, toxicity, and fire resistance of the fuselage materials are adequately addressed by the current regulations and, therefore, inclusion in these special conditions is unwarranted. The intent and scope of these special conditions was to ensure that the wing and fuel tank structure will not pose an additional hazard to passengers and crew during postcrash fire scenarios because of the introduction of composite materials. Cabin safety special conditions have been developed and published for comment in Special Conditions No. 25–07–09–SC, Docket No. NM373, published April 26, 2007 (72 FR 20774). Those special conditions require that the 787 provide the same level of in-flight survivability as a conventional aluminum fuselage airplane. This includes its thermal/acoustic insulation meeting requirements of § 25.856(a). Those special conditions state that resistance to flame propagation must be shown, and all products of combustion that may result must be evaluated for toxicity and found acceptable.

We have made no changes to these special conditions as a result of this comment.

Comment 8. Another commenter provided extensive background information on the current level of safety provided by the crashworthiness of aluminum transport category airframes. This commenter expressed concern that the introduction of a composite fuselage will reduce the crashworthiness of transport airplanes. The commenter further requested that we impose a fuselage drop test for the 787 to ensure that the current level of safety provided by an aluminum fuselage is provided by the composite materials used in the construction of the 787 fuselage.

FAA Response: We would like to note that the scope of these special conditions is limited to the fire safety provisions of the fuel tanks and wing structure during a fuel-fed ground fire. These special conditions are not intended to address the structural crashworthiness of the airframe. We have considered the impact of composites on airframe crashworthiness and have proposed Special Conditions 25–07–05–SC, published on June 11, 2007, in the **Federal Register** (72 FR 32021). As stated in those special conditions, ''The Boeing Model 787–8 must provide an equivalent level of occupant safety and survivability to that provided by previously certificated wide-body transports of similar size under foreseeable survivable impact events for the following four criteria. In order to demonstrate an equivalent level of occupant safety and survivability, the applicant must demonstrate that the

Model 787–8 meets the following criteria for a range of airplane vertical descent velocities up to 30 ft/sec * * *'' The FAA considers that proposed Special Conditions 25–07–05–SC adequately addresses the commenter's concerns for crashworthiness and we note that the commenter had opportunity to submit comments to that proposal as well. We have made no changes to these special conditions as a result of this comment.

Applicability

As discussed above, these special conditions are applicable to the 787. Should Boeing apply at a later date for a change to the type certificate to include another model on the same type certificate incorporating the same novel or unusual design features, these special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features of the 787. It is not a rule of general applicability.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

■ The authority citation for these special conditions is as follows:

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

The Special Conditions

■ Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for the Boeing Model 787–8 airplane.

In addition to complying with 14 CFR part 25 regulations governing the fire-safety performance of the fuel tanks, wings, and nacelle, the Boeing Model 787–8 must demonstrate acceptable postcrash survivability in the event the wings are exposed to a large fuel-fed ground fire. Boeing must demonstrate that the wing and fuel tank design can endure an external fuel-fed pool fire for at least 5 minutes. This shall be demonstrated for minimum fuel loads (not less than reserve fuel levels) and maximum fuel loads (maximum range fuel quantities), and other identified critical fuel loads. Considerations shall include fuel tank flammability, burn-through resistance, wing structural strength retention properties, and auto-ignition threats during a ground fire event for the required time duration.

Issued in Renton, Washington, on September 28, 2007.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7–20031 Filed 10–10–07; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2007–28172; Directorate Identifier 2007–NE–23–AD; Amendment 39–15224; AD 2007–21–06]

RIN 2120–AA64

Airworthiness Directives; General Electric Company (GE) CF6–80C2A5F Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for GE CF6–80C2A5F turbofan engines installed on, but not limited to, Airbus A300F4–605R airplanes. This AD requires removing previous software versions from the engine electronic control unit (ECU). Engines with new version software will have increased margin to flameout. This AD results from reports of engine flameout events during flight, including reports of events where all engines simultaneously experienced a flameout or other adverse operation. Although the root cause investigation is not yet complete, we believe that exposure to ice crystals during flight is associated with these flameout events. We are issuing this AD to minimize the potential of an all-engine flameout event caused by ice accretion and shedding during flight.

DATES: This AD becomes effective November 15, 2007.

ADDRESSES: You can get the service information identified in this AD from General Electric Company via Lockheed Martin Technology Services, 10525 Chester Road, Suite C, Cincinnati, Ohio 45215, telephone (513) 672–8400, fax (513) 672–8422.

The Docket Operations office is located at U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590–0001.

FOR FURTHER INFORMATION CONTACT: John Golinski, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: *john.golinski@faa.gov;* telephone: (781) 238–7135, fax: (781) 238–7199.

SUPPLEMENTARY INFORMATION: The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to GE CF6–80C2A5F turbofan engines installed on Airbus A300 series airplanes. We published the proposed AD in the **Federal Register** on June 28, 2007 (72 FR 35366). That action proposed to require removing previous software versions from the engine ECU. Engines with new version software will have increased margin to flameout.

Examining the AD Docket

You may examine the AD docket on the Internet at *http://www.regulations.gov* or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. Follow the online instructions for accessing the docket. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647–5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

Applicability Clarification

One commenter, Airbus, points out that CF6–80C2A5F engines are installed on Airbus A300–600 series airplanes, and not on Airbus A300 series airplanes, as we stated in the proposed AD. We agree that the applicability needs clarification. However, to be more accurate, we changed the AD to state that the CF6–80C2A5F engines are installed on, but not limited to, Airbus A300F4–605R airplanes.

Request To Exclude Airplanes

Airbus requests that we exclude airplanes that have incorporated modification number (No.) 13270, from the AD applicability. Airbus did not provide any technical rationale, information, or explanation regarding the content of modification No. 13270, or why airplanes with modification No. 13270 should be excluded from the AD.

We do not agree. We believe that modification No. 13270 might be an Airbus design change for removing previous versions of software from engines and incorporating new software. We state in the AD that the actions are required unless previously done. Airbus airplanes that have previously incorporated the actions of this AD by following the GE Service Bulletin, or any other document, such as Airbus modification No. 13270, have satisfied the requirements of this AD, and no