

written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this action may be changed in light of the comments received.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.

- For each issue, state what specific change to the proposed AD is being requested.

- Include justification (*e.g.*, reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this action must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2002-NM-54-AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2002-NM-54-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

Discussion

The Federal Aviation Administration (FAA) recently completed a review of in-flight entertainment (IFE) systems certified by supplemental type certificate (STC) and installed on transport category airplanes. The review focused on the interface between the IFE system and airplane electrical system, with the objective of determining if any unsafe conditions exist with regard to the interface. STCs issued between 1992 and 2000 were considered for the review.

The type of IFE systems considered for review were those that contain video

monitors (cathode ray tubes or liquid crystal displays; either hanging above the aisle or mounted on individual seat backs or seat trays), or complex circuitry (*i.e.*, power supplies, electronic distribution boxes, extensive wire routing, relatively high power consumption, multiple layers of circuit protection, etc.). In addition, in-seat power supply systems that provide power to more than 20 percent of the total passenger seats were also considered for the review. The types of IFE systems not considered for review include systems that provide only audio signals to each passenger seat, ordinary in-flight telephone systems (*e.g.*, one telephone handset per group of seats or bulkhead-mounted telephones), systems that only have a video monitor on the forward bulkhead(s) (or a projection system) to provide passengers with basic airplane and flight information, and in-seat power supply systems that provide power to less than 20 percent of the total passenger seats.

Items considered during the review include the following:

- Can the electrical bus(es) supplying power to the IFE system be deenergized when necessary without removing power from systems that may be required for continued safe flight and landing?

- Can IFE system power be removed when required without pulling IFE system circuit breakers (*i.e.*, is there a switch (dedicated to the IFE system or a combination of loads) located in the flight deck or cabin that can be used to remove IFE power?)?

- If the IFE system requires changes to flight crew procedures, has the airplane flight manual (AFM) been properly amended?

- If the IFE system requires changes to cabin crew procedures, have they been properly amended?

- Does the IFE system require periodic or special maintenance?

In all, approximately 180 IFE systems approved by STC were reviewed by the FAA. The review results indicate that potential unsafe conditions exist on some IFE systems installed on various transport category airplanes. These conditions can be summarized as:

- Electrical bus(es) supplying power to the IFE system cannot be deenergized when necessary without removing power from systems that may be required for continued safe flight and landing.

- Power cannot be removed from the IFE system when required without pulling IFE system circuit breakers (*i.e.*, there is no switch dedicated to the IFE system or combination of systems for the purpose of removing power).

- Installation of the IFE system has affected crew (flight crew and/or cabin crew) procedures, but the procedures have not been properly revised.

FAA's Determination

As part of its review of IFE systems, the FAA has determined that an unsafe condition exists on all Boeing Model 767-300 series airplanes modified by STC ST01783AT-D. The IFE system on these airplanes is connected to an electrical bus that cannot be deactivated without also removing power from airplane systems necessary for safe flight and landing. There is no other means to remove power from the IFE system. Additionally, the airplane manufacturer's published flight crew and cabin crew emergency procedures do not advise the flight crew and cabin crew that power cannot be removed from the IFE system. This condition, if not corrected, could result in inability to remove power from the IFE system during a non-normal or emergency situation, and consequent inability to control smoke or fumes in the airplane flight deck or cabin.

Explanation of Relevant Service Information

The FAA has reviewed and approved TIMCO Service Bulletin TSB-767-23-009, Revision IR, dated August 22, 2001. That service bulletin describes procedures for modifying the IFE system by installing two new relays to control power inputs to the IFE system, and a new circuit breaker to protect the wiring of the IFE system. Accomplishment of the actions specified in the service bulletin is intended to adequately address the identified unsafe condition.

The FAA also has reviewed and approved TIMCO AFM Supplement TIM-AFM-01035, dated March 13, 2002, which revises the procedures under the heading "Electrical Smoke or Fire" in the "Emergency Procedures" section of the AFM to provide instructions for the cabin crew to remove power from the various components of the IFE system in an emergency.

Explanation of Requirements of Proposed Rule

Since an unsafe condition has been identified that is likely to exist or develop on other products of this same type design, the proposed AD would require accomplishment of the actions specified in the service bulletin described previously. The proposed AD also would require revising procedures to be followed in the event of smoke or fire in the airplane by including the information in the AFM supplement