

statement is made: "Comments to Docket Number 2002–NM–238–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–238–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 de-energized 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 flightcrew 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, we reviewed approximately 180 IFE systems approved by STC. 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 de-energized 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 (flightcrew and/or cabin crew) procedures, but the procedures have not been properly revised.

FAA's Determination

As part of our review of IFE systems, we have determined that an unsafe condition exists on all Boeing Model 737–200 series airplanes modified by STC ST00516AT. 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 flightcrew and cabin crew emergency procedures do not advise that power cannot be removed from the IFE system. This condition, if not corrected, could result in the airplane crew's 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 Kosola and Associates Service Bulletin 2002–1, dated July 16, 2003, which describes a procedure for removing the IFE system installed by STC ST00516AT. The procedure includes disconnecting the power line that leads from the IFE system control unit to the P6 panel, capping and stowing all related wiring or removing that wiring from the airplane, removing the IFE system circuit breaker from the P6 panel, and removing all components of the IFE system from the airplane. Accomplishment of the actions specified in the service bulletin is intended to adequately address the identified unsafe condition.

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.

Other Relevant Rulemaking

The FAA has previously issued several ADs that address unsafe conditions and require corrective actions similar to those that would be required by the proposed AD. These other ADs, and the airplane models and STCs to which they apply, are as follows:

Model/series	STC No.	AD reference
Airbus A340–211	ST0902AC–D	AD 2001–18–01, amendment 39–12427 (66 FR 46939, September 10, 2001).
Boeing 737–300	ST00171SE	AD 2001–14–10, amendment 39–12321 (66 FR 36455, July 12, 2001).
Boeing 737–700	ST09100AC–D, ST09104AC–D, ST09105AC–D, ST09106AC–D.	AD 2001–14–12, amendment 39–12323 (66 FR 36452, July 12, 2001).
Boeing 747–100 and –200	SA8622SW	AD 2001–14–11, amendment 39–12322 (66 FR 36453, July 12, 2001).
Boeing 747–100 and –200	ST00196SE	AD 2001–16–19, amendment 39–12388 (66 FR 43068, August 17, 2001).