

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056

In the matter of the petition of

Airbus UK Limited

for an exemption from SFAR No. 88 of
Title 14, Code of Federal Regulations

Regulatory Docket No. FAA-2002-13872

PARTIAL GRANT OF EXEMPTION

By letter dated November 8, 2002, Mr. Roger Holliday, Head of Product Integrity UK, Airbus UK Limited, New Filton House, Filton Bristol, BS99 7AR, United Kingdom, petitioned for an exemption from the requirements of Special Federal Aviation Regulation (SFAR) No. 88, "Fuel Tank System Fault Tolerance Evaluation Requirements" of Title 14, Code of Federal Regulations (14 CFR). This exemption, if granted, would allow Airbus UK Limited, as the type certificate holder of the British Aerospace Corporation (BAC) 1-11 series airplanes, to substantially meet the intent of SFAR No. 88 without conducting a complete safety review of the airplane fuel tank system, as required by SFAR No. 88.

The petitioner requests relief from the following regulations:

Part 21, SFAR No. 88 – requires each type certificate (TC) holder to develop a report no later than December 6, 2002, that must:

- (a) Provide a fuel tank system safety review that contains substantiation that the airplane fuel tank design, including all necessary design changes, meets the requirements of §§ 25.901 and 25.981(a) and (b) as amended by Amendment 25-102; and
- (b) Contain all maintenance and inspection (M&I) instructions established by the fuel tank system safety review. The instructions are necessary to maintain the fail-safe design features required to preclude the existence or development of an ignition source within the fuel tank system throughout the operational life of the affected airplanes.

Operators are obligated by the amendments to parts 91, 121, 125, and 129 of the operating rules to have an approved maintenance program for the fuel tank systems on their affected airplanes by December 16, 2008. That maintenance program will incorporate the M&I instructions created by the affected TC and STC holders from their SFAR No. 88 fuel tank system safety review(s), as well as address the actual configuration of the airplane.

The petitioner's supportive information is as follows:

“Worldwide service utilization of all series of BAC One-Eleven Aircraft to date is close to 8.5 million flight hours accumulated by 244 aircraft of all series since entry into service in 1965. Currently about 32 aircraft remain in service around the world (excluding about 12 aircraft in Nigeria which have been grounded since May 2002). Of this total 9 remain operational in the US.

“We understand that the US aircraft are used mainly for either corporate or charter operations apart from the 3 aircraft used by Northrop Grumman in Baltimore for experimental work. Our enquiries from the current operators would indicate that future utilization will be very limited, varying between 150 and 400 flying hours per year with 10 years quoted by Northrop Grumman as the longest expected usage. 27,000 hours (9 aircraft x 300 hours for 10 years) is therefore a conservatively high estimate of the future risk exposure in the USA. The expectation of future worldwide utilization is no greater than, say, 100,000 hours or less than 1½% of past service history.

“The scope of the task of carrying out a full programme of work to demonstrate compliance with SFAR 88 for BAC One-Eleven aircraft would cover the design review and the design, development and certification activities associated with the consequent modifications. The modifications would be expected to cover primarily the provision of transient suppression units to protect in-tank low power wiring (fuel quantity indication) and ground fault interruption for fuel pump wiring.

“These tasks would impose excessive costs on both the OEM and operators of the remaining very small fleet of BAC One-Eleven aircraft, impacting on the continued economic operation of these aircraft.

“Nevertheless Airbus will continue to review the design and in-service experience of the aircraft’s fuel system and where appropriate recommend future maintenance actions. These may include one-time inspections or fleet-wide replacement of components. The results of these reviews and any outcomes will be presented to the UK CAA for agreement of the proposed actions and promulgation to operators and airworthiness authorities.”

A summary of the petition was published in the Federal Register on August 4, 2004 (69 FR 47205). No comments were received.

The FAA’s analysis/summary is as follows:

The FAA has considered the information provided by the petitioner, and has determined that there is sufficient merit to warrant a partial grant of exemption.

Nature and Extent of Relief Sought

The petitioner requests an exemption from the requirements of part 21 SFAR No. 88 for all versions of the BAC 1-11 airplane.

Information in Support of the Petition

The FAA concurs that the BAC 1-11 is used today exclusively by a limited number of operators on routes where the BAC 1-11 operating costs are favorable for their specific market. The FAA agrees that a petition for exemption is an appropriate avenue to address the petitioner's concerns supporting the exclusion of all BAC 1-11 airplanes from compliance with SFAR No. 88. The petitioner commits to review the design and in-service experience of the BAC 1-11 fuel system and develop appropriate maintenance actions. Since submitting the petition for exemption, the ignition prevention review has been completed and revised operating and maintenance procedures have been developed. Airbus UK issued Alert Service Bulletin 28-A-PM6057, dated 10 May 2004, which identifies the operating and maintenance procedures required to maintain the continued airworthiness of the fuel tank system. The UK Civil Aviation Authority has mandated compliance with the Alert Service Bulletin through Airworthiness Directive (AD), AD No: G-2004-0012, dated 12 June 2004. The FAA intends to issue a similar AD.

Comments in the Public Interest

The petitioner demonstrates unique circumstances that make granting the exemption in the public interest. The FAA notes the petitioner's observation that by denying the petition, a significant economic burden would be placed on a BAC 1-11 operator. The FAA concludes that because of the small fleet size and limited operation of these airplanes, the fuel system design of the BAC 1-11 is acceptable with the restrictions and limitations below.

In consideration of the foregoing, I find that a partial grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 40113 and 44701, delegated to me by the Administrator, Airbus UK Limited, is granted a partial exemption from Title 14, Code of Federal Regulations, part 21, SFAR No. 88 (insofar as the SFAR addresses compliance with §§ 25.901 and § 25.981(a) and (b), as amended by Amendment 25-102), to the extent necessary to allow Airbus UK Limited, as the type certificate holder of the BAC 1-11 series airplanes, to meet the obligations of SFAR No. 88 without conducting a complete fuel tank safety review, and

without developing the necessary design changes required by that safety review, subject to the following conditions and limitations:

1. Airbus UK Limited must distribute Airbus UK Alert Service Bulletin 28-A-PM6057, dated 10 May 2004, to all operators of BAC 1-11 series airplanes.
2. This exemption does not provide relief to operators of BAC 1-11 airplanes from the requirements in their respective operating rule (§§ 91.410, 121.370, 125.248, or 129.32). However, the FAA oversight office (Transport Airplane Directorate) approves the data and information provided by the design approval holder as the basis for the affected operators to propose changes to their maintenance or inspection program in accordance with the operational rules.

Issued in Renton, Washington, on April 5, 2005.

/S/

Kalene C. Yanamura
Acting Manager
Transport Airplane Directorate
Aircraft Certification Service