

UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
RENTON, WASHINGTON 98057-3356

In the matter of the petition of

Boeing Commercial Airplanes

for an exemption from § 26.11(a) of Title  
14, Code of Federal Regulations

**Regulatory Docket No. FAA-2008-0219**

**GRANT OF EXEMPTION**

By a submission to the Department of Transportation's Federal Docket Management System (FDMS) dated February 8, 2008, and a later clarifying submission, dated March 18, 2008, Mr. Douglas M. Lane, Boeing Commercial Airplanes, P.O. Box 3707, M/S 67-UM, Seattle, WA, 98124 petitioned the Federal Aviation Administration (FAA) for an exemption from the requirements of Title 14, Code of Federal Regulations (CFR) 26.11(a). This exemption is requested for the Boeing Model series 707-100/-200/-300/-400 and 720 airplanes. Section 26.11 requires development of instructions for continued airworthiness (ICA) applicable to an airplane's electrical wiring interconnection systems (EWIS) and § 26.11(a) defines which airplanes the rule applies to.

**The petitioner requests relief from the following regulations:**

**Section 26.11(a) Electrical wiring interconnection systems (EWIS) maintenance program.**

This rule requires development of instructions for continued airworthiness (ICA) applicable to an airplane's electrical wiring interconnection systems (EWIS). Paragraph (a) defines which airplanes the rule applies to.

**The petitioner supports its request with the following.** This information is quoted from parts of Mr. Douglas Lane's March 18, 2008, letter, and a July 10, 2008, e-mail from Mr. Don Anderson. The complete petition and additional letter and e-mails containing supplemental information may be found in the docket.

## **Public Safety**

Our request is to except the Boeing Models 707 and 720 from the Part 26 design approval holder rule. The reality is that these airplanes have been modified extensively since their introduction into service over thirty years ago, so most, if not all, of the information developed by Boeing in compliance with Part 26 would not apply to these airplanes, nor would the compliant instructions for continued airworthiness (ICA) be needed by the current operators to satisfy an operational requirement. The majority of operators of these models would need to extensively modify the enhanced ICA beyond recognition in order to accommodate the numerous modifications made to the airplanes since production delivery.

## **Public Interest**

These models are not being operated commercially within the United States, nor are they expected to be in the future. The operational rules that necessitate the enhancement of instructions for continued airworthiness do not apply to these airplane models because they are not being operated in the United States. The basis for the development of the instructions [for] continued airworthiness by the design approval holder, that the ICA be developed based on an EWIS configuration representative of that used in production, with the addition of modifications mandated by airworthiness directives has been overridden by changes made to in-service airplanes since commercial production ended in June 1977.

Exclusion of these models from the requirements of section 14 CFR § 26.11 would permit Boeing to apply more resources to the development of the enhanced instructions for continued airworthiness for those remaining models to which the rule is applicable. Boeing considers that the exemption would accelerate the availability of the enhanced instructions for continued airworthiness to those operators of the remaining Boeing models, allowing them to pre-implement an enhanced maintenance program and initiate inspection of EWIS sooner than the compliance date of March 10, 2011.

## **Additional Information Provided by Boeing**

... a high percentage of the active airplanes are being used in military operations or are being operated in embargoed countries. Operators of these airplanes would not normally be subjected to changes in FAA commercial transport operational requirements. With the exception of one airline, Saha, based in embargoed Tehran, the remaining active Boeing Model 707 variants are likely to be utilized in cargo operations. As indicated in our petition, all operations are occurring outside of the United States. The three 707 airplanes operated by Saha were originally delivered as KC135 air-to-air tankers [and] were subsequently modified to accommodate passengers.

The age of the airplanes, coupled with the fuel consumption and noise emission characteristics, leads Boeing to believe these airplanes are highly unlikely to be operated in commercial service within the Western world. In addition, early EZAP analysis indicates that the intervals for inspection of Boeing production wiring are ranging from six to ten years. Given that operators are required to ensure the enhanced inspections are included in their maintenance program by March 2011, the initial inspections of these few remaining commercial airplanes could be delayed until 2017 at the earliest. It is even less likely that the few remaining commercial uses of this airplane model at present will still be viable in 2017.

In addition, most of the airplanes currently operating in commercial service have been heavily modified to meet their current mission requirements. Even if Boeing as the DAH

were to provide updated ICA for the production wiring, extensive review by the holders of the supplemental type certificates installed on the airplanes over the past few decades would need to take place to determine if the ICA were appropriate to the configuration of these airplanes. Being that many of the modifications were made by STCs where the holder is no longer viable, much of the evaluation will need to be conducted by the airline.

In many cases the airplane is operated in an embargoed country where EZAP training is neither possible nor practical.

While Boeing understands that the FAA must provide oversight of the Model 707/720 as the State of Design, we also believe that development of an enhanced maintenance program using EZAP for these airplanes would invariably be ignored by the current operators unless there is a corresponding operational rule in the locales in which these airplanes operate. Given that the purpose of Part 26 is to ensure that the operators have the data to implement a operational safety enhancement, and no such operational safety enhancement exists, Boeing sees no industry benefit to developing enhanced wiring maintenance programs for these airplanes.

14 CFR 26.11 states that the DAH must develop and make available to affected persons updated ICA based upon a representative airplane, i.e. an airplane configuration that represents all variations of wiring delivered during production and modified per airworthiness directive. Of the 1012 Model 707 airplanes produced, only 265 are shown as being actively used and, based upon our recent query only 52 are currently believed to be used in commercial passenger or cargo operations. Of those 52, only 4 are known to be used in commercial operations. Those four are being operated in a embargoed location where transmittal of an enhanced maintenance program is restricted.

Boeing believes that the extensive effort to derive a representative airplane from the drawings of 1012 configurations and countless airworthiness directives in order to derive an enhanced maintenance program that is unlikely to be voluntarily adopted by the current operators of 52 airplanes that are unlikely to return to commercial service after 2017, would be better placed elsewhere.

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## **Federal Register publication**

A summary of the petition was published in the Federal Register on May 15, 2008 (73 FR 28546). No comments were received regarding the exemption request.

## **The FAA's analysis**

The FAA has developed criteria to consider when deciding whether to grant or deny a part 26 exemption request. These criteria were meant as a general guide to making decisions about such requests and were not developed for any specific request. The FAA uses these criteria as a starting point for making its decision. However other factors may also be considered before a final decision is made on any particular exemption request.

The criteria are illustrated in the table that follows.

**Table 1**

**Criteria for Considering Eligibility for Exemption  
from §§ 26.11, 26.43, 26.45, 26.47, or 26.49**

	<b>If the airworthiness authority for the state of design is</b>	<b>And</b>	<b>And</b>	<b>And</b>	<b>Then</b>
1	The FAA	No airplanes are operating under part 121 and it is unlikely that any will do so in the future <sup>3</sup>	No airplanes are operating under part 129 (N-registered) and it is unlikely that any will do so in the future <sup>3</sup>	No airplanes are being operated by a foreign air carrier and it is unlikely that any will do so in the future <sup>3</sup>	The DAH may be eligible for an exemption
2	The FAA	Airplanes are operating under part 121 but no airplanes will be operated under part 121 after the operational rule compliance date <sup>1</sup> and it is unlikely that any will return to such service in the future <sup>3</sup>	Airplanes are operating under part 129 (N-registered) but no airplanes will be operated under part 129 (N-registered) after the operational rule compliance date <sup>1</sup> and it is unlikely that any will return to such service in the future <sup>3</sup>	Airplanes are being operated by a foreign air carrier but no airplanes will be operated by a foreign air carrier after the operational rule compliance date <sup>1</sup> and it is unlikely that any will return to such service in the future <sup>3</sup>	The DAH may be eligible for an exemption
3	Not the FAA	No airplanes are operating under part 121 and it is unlikely that any will do so in the future <sup>3</sup>	No airplanes are operating under part 129 (N-registered) and it is unlikely that any will do so in the future <sup>3</sup>		The DAH may be eligible for an exemption
4	Not the FAA	Airplanes are operating under part 121 but no airplanes will be operated under part 121 after the operational rule compliance date <sup>2</sup> and it is unlikely that any will return to such service in the future <sup>3</sup>	Airplanes are operating under part 129 (N-registered) but no airplanes will be operated under part 129 (N-registered) after the operational rule compliance date <sup>2</sup> and it is unlikely that any will return to such service in the future <sup>3</sup>		The DAH may be eligible for an exemption

<sup>1</sup> The design approval holder must demonstrate that these airplanes will not be operating under part 121 or part 129, or operated by a foreign air carrier, after the operational rule compliance date by obtaining documentation of such from the current owners/operators of the airplanes.

<sup>2</sup> The design approval holder must demonstrate that these airplanes will not be operating under part 121 or part 129 after the operational rule compliance date by obtaining documentation of such from the current owners/operators of the airplanes.

<sup>3</sup> Arguments for the likelihood of an airplane not entering into air carrier service in the future should center on the airplane's age and/or current configuration.

The determination of whether an airplane is operating under part 121 or part 129 is based on whether that particular airplane is listed on an air carrier's Operations Specifications.

The rationale behind the criteria contained in the table above is that if there are no operators who will be required by the 121/129 rules, or (for U.S. manufacturers) the rules of foreign authorities who have harmonized with us, to use the data these regulations require to be developed, then it would be a poor use of resources to develop that data. Therefore, it would benefit both the DAH and the public as a whole to spend resources on more important safety issues rather than on developing data that will not be used. In addition, granting such an exemption would not adversely affect safety because there are no airplanes that would be required to incorporate the data, nor is it likely that there will be any in the future.

The FAA has reviewed Boeing Commercial Airplanes' request and has determined that granting this exemption would not have an adverse effect on public safety and would be in the public interest based on the following information:

Although the FAA is the airworthiness authority for the state of design for these models, there are currently no US-registered Boeing Model 707-100/-200/-300/-400 or 720 airplanes operating under parts 121 or 129. As Boeing states in its petition request, there are Boeing 707s operating in commercial service outside of the United States. These airplanes, however, are operating in countries that have not adopted rules similar to the FAA's part 26 requirements or the corresponding operational requirements contained in §§ 121.1111 and 129.111. Therefore, even if Boeing were required to develop EWIS ICA, the authorities of the countries in which the affected models operate have no requirements for operators to use the data.

The FAA also finds that any EWIS ICA developed by Boeing would not adequately provide the enhancement to EWIS safety that was intended by the part 26 EWIS ICA requirements. This is because the EWIS ICA produced by Boeing would be based on the configuration of the airplane when it was first delivered, along with design modifications that have been mandated over the years by FAA Airworthiness Directives. The last Model 707/720 airplane was produced over 30 years ago, and any airplanes still in service will have likely had multiple and extensive modifications. Because these modifications would not be accounted for in the data produced by Boeing, it would be nearly impossible for Boeing to develop comprehensive EWIS maintenance instructions that would provide the enhancements to EWIS safety intended by § 26.11.

The FAA further finds that any Boeing Model 707-100/-200/-300/-400 or 720 airplanes still in service are unlikely to enter service under parts 121 or 129 (US-registered) because of their age, operating expenses, and the resources necessary to bring them into compliance with US airworthiness standards, notwithstanding the requirements of parts 26, and related requirements of parts 121, and 129. However, as stated below, this exemption does not grant relief to related operational requirements in parts 121 and 129, and any person who chooses to enter service under those parts would need to comply with those operational requirements. As part of its petition, Boeing Commercial Airplanes also requested that we amend § 26.11(g). That paragraph is a list of the airplane models that are excluded from requirements of § 26.11, and

Boeing asked that we add the Boeing Model series 707-100/-200/-300/-400 and 720 airplanes to that list. We have decided against amending the rule at this time solely for this purpose.

### **Additional Information**

This exemption grants relief to Boeing Commercial Airplanes from having to meet the requirements of § 26.11 for development of EWIS ICA. This exemption does not grant relief from the related operational requirements contained in §§ 121.1111 and 129.111. Should a person choose to operate a Boeing Model series 707-100/-200/-300/-400 or 720 airplane under part 121 or part 129 beyond the operational compliance deadlines stated in §§ 121.1111 and 129.111, that person will be required to comply with those operational requirements.

### **Supplemental Type Certificate (STC) Holders and Applicants**

The petitioner did not request an exemption for STC holders. But because of the way this rule is structured, we needed to consider how granting this petition would affect them. Section 26.11 requires an applicant for an amended type certificate or STC to evaluate whether the design change necessitates a revision to the EWIS ICA developed by the TC holder and approved by the FAA Oversight Office. Since in this case it would be Boeing Commercial Airplanes applying for an amended TC, Boeing Commercial Airplanes would be exempt from the requirements of § 26.11(c) if the FAA grants its petition. However, a grant of exemption for Boeing would mean that applicable STC holders and applicants would not be able to comply with the requirements of § 26.11. So the FAA considered the impact on these entities of whether a grant should be issued, and if so, whether it should be expanded to the applicable STC holders and applicants.

### **The FAA's decision**

In consideration of the foregoing, I find that a 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, Boeing Commercial Airplanes is hereby granted an exemption from § 26.11 for Boeing Model series 707-100/-200/-300/-400 and 720 airplanes.

In addition, since the FAA does not intend for these rules to apply to an STC holder or applicant if they do not apply to the type certificate holder for the airplane model being modified, this grant is extended to those STC holders and applicants that have modified or modify Boeing Model series 707-100/-200/-300/-400 and 720 airplanes.

Issued in Renton Washington on December 2, 2008.

/s/Ali Bahrami  
Ali Bahrami  
Manager  
Transport Airplane Directorate  
Aircraft Certification Service