

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

In the matter of the petition of

FedEx Express Corporation

for an exemption from § 121.312(e)(1) of
Title 14, Code of Federal Regulations

Regulatory Docket No. FAA-2007-0370

GRANT OF EXEMPTION

By letter dated December 17, 2007, Mr. John M Hansen, Legal Counsel for FedEx Express Corporation, 3620 Hacks Cross Road, Building B 3rd Floor, Memphis, TN 38125, petitioned the Federal Aviation Administration (FAA) for an exemption from the requirements of § 121.312(e)(1) of Title 14, Code of Federal Regulations (14 CFR). These operating rules require that all insulation materials installed as replacements in the cabin of a transport category airplane after September 2, 2005, be compliant with 14 CFR 25.856, flammability standards.

The petitioner requests relief from the following regulations:

Section 121.312(e)(1): For airplanes manufactured before September 2, 2005, when thermal/acoustic insulation materials are installed in the fuselage as replacements after September 2, 2005, those materials must meet the flame propagation requirements of § 25.856 of this chapter, effective September 2, 2003.

The petitioner supports its request with the following information:

“FedEx Express, operating certificate FDEAI40A, petitions the Administrator for limited relief from FAR §121.312(e)(1), in order to conduct scheduled and non-scheduled air carrier operations with nine (9) U.S. registered MD-11F airplanes. The nine (9) subject MD-11F airplanes were converted from passenger-configured airplanes to freighter configurations by Boeing, after the effective date of FAR § 121.312 (e)(1), September 2, 2005. During the conversions, two (2) cockpit air supply ducts which did not meet the subject rule were installed in series on one airflow path of the nine (9) FedEx Express delivered airplanes.

“Currently, replacement parts for the ducts, which comply with FAR §121.312 (e)(1) are not available. In addition, both ducts are not readily accessible without removal of a crew rest monument, which has no scheduled removal for maintenance. Of preeminent note, the Boeing Company and the FAA Los Angeles Airplane Certification Office have concluded that the existing cockpit air supply duct installation installed on the affected airplanes do not constitute an unsafe condition.

“FedEx Express respectfully requests relief from FAR § 121.312(e)(1) installation and use of the two (2) aforementioned ducts on nine (9) MD-11F airplanes.

“In accordance with the provisions of Federal Aviation Regulations (FAR) 11.25, FedEx Express petitions for an exemption from FAR 121.312(e)(1).

“Sections of the FARs Affected:

“Applicable Requirements:

“CFR 14 § 121.312, *Materials for compartment interiors*, states in part:

“(e) Thermal/acoustic insulation materials. For transport category airplanes type certificated after January 1, 1958:

(1)For airplanes manufactured before September 2, 2005. when thermal/acoustic insulation materials are installed in the fuselage as replacements after September 2, 2005, those materials must meet the flame propagation requirements of § 25.856 of this chapter, effective September 2, 2003...

“The applicable portions of § 25.856(a) requires that the subject parts; *must meet the flame propagation test requirements of part VI of Appendix F* which requires a "radiant panel, 3 second, 2 inch, horizontal" flammability test.

“Superseded Requirements

“CFR 14 § 25.853, *Compartment Interiors*, "15 second, 8 inch, vertical" flammability test.

“Description of the Issue:

“In late 2006, the Boeing Company disclosed to the FAA that two air supply ducts, installed on converted MD-11F airplanes, had no evidence of having received FAA certification to the § 121.312(e) (§ 25.856(a)) rule.

“Nine (9) subject MD-11F airplanes, registration numbers; N577FE, N574FE, N576FE, N575FE, N526FE, N527FE, N524FE, N523FE, and N521FE were converted by the Boeing Company, from passenger configured MD-11 airplanes to all freight MD-11F airplanes after September 2, 2005, the effective date of § 121.312. During th conversions from passenger to freighter configuration, the cockpit air supply duct(s) required replacement to accommodate the cockpit crew rest module. The BWT 10502-1 Silencer Duct and ABM 7668-1 Duct were installed during the conversions. The BWT 10502-1 Silencer Duct and ABM 7668-1 Duct were originally certified as part of the MD-11/MD-11F Type Design

during production. The MD-11/MD-11F certification basis required compliance with § 25.853 for these parts.

“Requested Relief:

“FedEx Express requests that an Exemption be granted from the requirements of § 121.312(e)(1) to allow continued operation of the nine (9) subject MD-11F airplanes, with the BWT 10502-1 Silencer Duct and ABM 7668-1 Duct installed.

“Further, FedEx Express requests that this Exemption be granted for the maximum period allowed. If the Exemption period is to be limited, allowance for consideration of renewal is also requested.

“FedEx Express believes the granting of this requested relief will set no precedent and a finding of good cause can be made for waving publication in the *Federal Register* (14 CFR 11.87).

“Discussion:

“Access to the subject ducts requires the removal of a crew rest monument, which would consume significant resources.

“There is no normally scheduled maintenance that requires the removal of the crew rest monument.

“Currently, no replacement parts for the subject ducts are available that meet the § 121.312(e)(1) requirements.

“Removal and replacement of the, subject ducts would require the nine (9) airplanes be removed from service for a significant time to accomplish the work. These airplanes have only recently entered service from the conversion and major maintenance. As such, near term opportunities are not available to perform removal and replacement without adversely affecting the utilization schedule of these airplanes.

“MD-11 and MD-11F airplanes with the subject ducts installed prior to September 2, 2005, the effective date of § 121.312, can be operated indefinitely in compliance with the applicable regulations.

“Justification:

“The operation of the nine (9) subject airplanes should be allowed to continue to operate with the BWT 10502-1 Silencer Duct and ABM 7668-1 Duct installed for the following reasons:

- “Many MD-11F airplanes were either originally configured with these ducts or converted to freighter configurations, which incorporated these ducts, prior to September 2, 2005.

- “Under the § 121.312 rule, the applicable flammability requirements in place for these ducts during the original certification provide an acceptable level of safety to the FAA for indefinite continued operation, if the part remains in serviceable condition, or until an affected part is replaced for any reason.
- “The §121.312 rule was intended to raise the standard for flammability of specific products through attrition of replacement, rather than unilaterally.
- “The subject airplanes constitute a very small percentage of all MD-11 airplanes, equipped with products, most of which §121.312(e)(1) is not applicable, simply due to their installation date and therefore they may continue to operate indefinitely.
- “The subject ducts constitute a very small portion of the overall volume of materials affected by flammability regulations within the MD-11F.

“No Adverse Effect on Public Safety:

“The Boeing Company (OEM) and FAA Los Angeles Aircraft Certification Office have assessed this condition and both have concluded that no unsafe condition is created from operation of the nine (9) subject airplanes with the BWT 10502-1 Silencer Duct and ABM 7668-1 Duct installed.

“Public Interest:

“The public interest will be served by the granting of this Exemption for the following reason:

“The nine (9) subject airplanes, which constitute a significant payload capacity for FedEx Express and contribute substantially to U.S. commerce, would be allowed to continue to provide uninterrupted service to the public.

“Conclusion:

“FedEx Express is currently operating nine (9) U. S. registered MD-11F airplanes which were recently converted from passenger to all cargo configuration by the Boeing Airplane Company. During the conversions two (2) cockpit air supply ducts, which did not meet the subject rule were installed in each airplane. Replacement parts for the ducts which comply with FAR § 121.312(e)(1) are not currently available. In addition, both ducts are not readily accessible without removal of a crew rest monument, which has no scheduled removal for maintenance. Finally, the Boeing Company and the FAA Los Angeles Airplane Certification Office have concluded that the existing cockpit air supply duct installation installed on the affected airplanes do not constitute an unsafe condition.

“FedEx Express respectfully requests relief from FAR §121.312(e)(1) installation and use of the two (2) aforementioned ducts on nine (9) MD-11F airplanes.

“FedEx Express request that a finding of good cause be made for waving publication in the *Federal Register* (14 CFR § 11.87) as granting this requested relief will set no precedent.”

Federal Register publication

A summary of the petition was published in the Federal Register on March 19, 2008 (73 FR 14866). No comments were received.

The FAA's analysis

As stated by the petitioner, many MD-11F airplanes already have these ducts installed. Some were originally configured with these ducts, while others were converted to freighter configurations prior to the rule deadline of September 2, 2005. Therefore, pursuant to compliance with § 121.312, the FAA finds that the applicable flammability requirements in place for these ducts at the time of their original certification do, in fact, provide an acceptable level of safety for continued operation, provided that the parts in question remain in serviceable condition, or until the affected parts are replaced for any reason. Section 121.312 was intended to raise the flammability standard of specific products through attrition and replacement, rather than through the mandatory replacement of all subject materials. Therefore, the FAA finds that the installation of these two ducts does not have an adverse effect on the level of safety for these MD-11 airplanes.

As a result of an oversight during the original design review, the manufacturer determined that the insulation of the two ducts subject to this exemption did not need to comply with the requirements of § 25.856. It was not until further investigation that the manufacturer realized that the ducts did need to comply, but by that time these airplanes had already been delivered and placed into service. It was at this time that they disclosed the noncompliance to the FAA.

After a complete review of the installation on these airplanes the FAA has determined that because of the complexity of the installation and the small numbers of airplanes affected, it is not appropriate to require the replacement of these ducts at this time. The subject airplanes, constitute a very small percentage of the entire MD-11 operational fleet for most of which § 121.312(e)(1) is not even applicable. Further, the subject ducts constitute a very small portion of the overall volume of materials affected by the upgraded flammability regulations and do not represent an adverse effect on the overall level of safety. The FAA has reviewed this issue and finds that the nine subject airplanes should be permitted to operate with the BWT 10502-1 Silencer Duct and ABM 7668-1 Duct installed.

As a result of the circumstances related to the manufacturer's error, there was no possibility for an operator to have been aware of the non-compliance at the time of the airplanes entering service. Because of the extenuating circumstances of this particular situation, and the associated costs for replacing the non-compliant insulation, the FAA finds that it would not be in the public interest to require that

the insulation on these ducts be replaced. Under different circumstances where, during the course of normal maintenance, an operator or its maintenance provider either mistakenly or intentionally installs non-compliant insulation, we would not reach the same conclusion.

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, FedEx Express Corporation is hereby granted an exemption from § 121.312(e)(1) to the extent necessary to allow FedEx Express Corporation to operate nine Boeing Model MD-11F airplanes. This exemption does not supersede the requirements covered by 14 CFR part 121 for future repairs affecting these parts.

Issued in Renton Washington, on August 25, 2008.

/s/

Dionne Palermo
Acting Manager, Transport Airplane Directorate
Aircraft Certification Service