Exemption No. 9870

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

In the matter of the petition of **Short Brothers plc** for an exemption from §§ 26.43, 26.45, and 26.49 of Title 14, Code of Federal Regulations	**Regulatory Docket No. FAA-2008-0260**

PARTIAL GRANT OF EXEMPTION

By submission to the Department of Transportation's Federal Docket Management System (FDMS) dated February 26, 2008, and later clarifying submissions, dated August 26, 2008; October 2, 2008; October 30, 2008; and January 14, 2009; Mr. Michael Mulholland of Short Brothers plc, Airport Road, Belfast, Northern Ireland, BT3 9DZ, petitioned the Federal Aviation Administration (FAA) for an exemption from the requirements of Title 14 Code of Federal Regulations (14 CFR) 26.43, 26.45, and 26.49. This exemption is requested for Short Brothers Model SD3-60 and SD3-60 SHERPA airplanes. Sections 26.43, 26.45, and 26.49 are requirements related to the development of damage tolerance data for repairs and alterations.

The petitioner requests relief from the following regulations:

§ 26.43 Holders of and applicants for type certificates—Repairs, which requires development of damage tolerance data for repairs.

§ 26.45 Holders of type certificates—Alterations and repairs to alterations, which requires development of damage tolerance data for repairs and alterations.

§ 26.49 Compliance plan, which requires development of a compliance plan for §§ 26.43, 26.45, and 26.47.

The petitioner supports its request with the following information. This information is quoted from Mr. Mulholland's February 26, 2008 petition letter. The complete petition and subsequent clarifying submission letters may be found in the docket.

Reasons Why the Exemption Would Not Adversely Affect Public Safety:

The final rule introducing the regulations from which we are requesting exemption applies to transport category airplanes with a maximum type certificated passenger seating capacity of 30 or more or a maximum payload capacity of 7,500 pounds or more.

The data to be developed in complying with the regulations from which we are requesting exemption is only required to support Part 121 and 129 operators in complying with the relevant operating rules that require them to include such data in their FAA approved maintenance program.

Whilst the SD3-60 aircraft is covered by the applicability of the regulations, there are presently, to the best of our knowledge, only two SD3-60 aircraft being operated under Part 121 regulations by a single operator based in the US Territory of Guam. According to our records, there are currently 51 airworthy SD3-60 aircraft in the US registered fleet, predominantly being operated in "all cargo" operations under Part 135 regulations and a number of these aircraft are known to be in storage. In respect of the two SD3-60 aircraft currently operating under Part 121, their current average annual utilization rates are 1089 F/H (2483 F/C) and 692 F/H (1265 F/C).

We also contend that the overall safety benefit that would be achieved by not exempting the SD3-60 aircraft from having to comply with 14 CFR Part 26.43 is simply not proportionate to the level of effort required by us, the DAH or indeed the regulatory authorities.

The SD3-60 aircraft has been out of production since 1991 and the only way we can absorb the cost of this task is by passing it directly onto the owners/operators of the aircraft. In this case the consequent costs would have to be recouped from a single entity operator.

The SD3-60 aircraft is a small transport category airplane with an unpressurized fuselage originally certificated using the safe life, fail-safe design concept with a structural design philosophy that ensures low stress levels throughout, to achieve a long crack-free life.

Additionally, a supplemental structural inspection program (SSIP) has been developed for the SD3-60 aircraft and is required by the Shorts Recommended Maintenance Programme to be implemented upon reaching an initial design service life of 28,800 F/H or 50,000 F/C (whichever occurs first) in conjunction with the completion of a one-time structural half life audit. This SSIP was based on AC91-56, which the FAA has determined is applicable to small transport category airplanes as well as to large transport category airplanes. This SSIP has been approved by the FAA but has not been mandated (recognizing that the SD3-60 fleet not wholly operated under Part 121 regulations) and is considered

satisfactory to ensure the structural integrity of the aircraft throughout its economic structural life of 57,600 F/H or 100,000 F/C (whichever occurs first).

The above reasons are considered to be commensurate with the position expressed by the FAA in the published final rule documents associated with Aging Airplane Safety and Damage Tolerance Data for Repairs and Alterations. (extracts shown below)

> A significant number of operators subject to the AASFR are small entities. If each of the small-entity operators individually took the responsibility for developing DT-based data, the cost for the data would be significant. By transferring the responsibility from part 121 operators to DAHs, this rule will relieve those operators of what could be a significant cost.

Reason the Exemption Would Benefit the Public Interest:

We find it difficult to quantify that granting the exemptions is in the public interest, but we contend that the impact to the overall safety risk associated with granting these exemptions (likely affecting only one aircraft operator) will be no greater than the risk to the public safety presented by the entire US fleet of aircraft operating under Parts 91, 125 and 135 as assessed by the FAA when excluding them from the applicability of AASFR . . ..

Summary information

The SD3-60 aircraft is covered by the applicability of 14 CFR 26.43, 26.45, and 26.49. One operator of a US registered SD3-60 aircraft currently operates in accordance with Part 121 requirements. This operator intends to continue operation in accordance with Part 121 beyond December 2010.

Additional information provided by the petitioner

Mr. Mulholland provided the following additional information in a letter dated October 30, 2008. This information is quoted from the letter. The entire letter is contained in the docket.

> All other civil respondents stated they operate in accordance with Part 135 requirements and have no desire to migrate to Part 121. This is "in line" with the trend observed by Short Brothers over the past decade and beyond, likely due to the increasing demand Part 121 regulations have placed on operators and the associated costs of compliance.
>
> Government-Use aircraft respondents have declared no requirement to adopt the maintenance program changes specified in §§ 121.1109 and 121.1111.
>
> There is no historic evidence of the SD3 type reverting to part 121 or 129 operations; in fact the opposite is the case. Most, if not all, original deliveries ex

factory to the US jurisdiction were to Part 121 operators providing regional passenger services. With the advent of pressurized turbo-props, and then Regional Jets, the majority of the active US SD3 fleet has migrated to serving cargo operators under Part 135, there now being only one Part 121 operator, referenced above.

As alluded to above, current SD3 operators are typically small organizations not resourced to maintain aircraft in compliance with Part 121 regulations. It must also be said that the level of equipment changes (such as EGPWS, TCAS etc) necessary to return an SD3 aircraft to a configuration that complies with Part 121 are not available as DAH approved modifications and are likely to be cost prohibitive to the existing SD3 operator base.

As noted in our petitions for exemption, we find it difficult to quantify that granting the exemptions is in the public interest, but we contend that the impact to the overall safety risk associated with granting these exemptions (likely affecting only one aircraft operator) will be no greater than the risk to the public safety presented by the entire US fleet of aircraft operating under Parts 91, 125 or 135 as assessed by the FAA when excluding them from the applicability of AASFR and EAPAS.

It is inconceivable that we could expect to recover the considerable costs associated with those tasks to be undertaken to support producing all the required changes to the Instructions for Continued Airworthiness from the single US operator potentially impacted by AASFR and EAPAS.

Additional request from the petitioner to include the Model SD3-60 Sherpa

In response to an inquiry by the FAA to clarify if the Model SD3-SHERPA and SD3-60 SHERPA airplanes were included in the original request dated February 26, 2008, Mr. Mulholland provided the following information, which is quoted from his response. The entire response is contained in the docket.

The short answer is in fact yes.

… SD3-60 Sherpa, whilst included on TCDS A41EU are SD3 aircraft variants delivered to the US Government under purchase agreements which required them to be (initially) civil certificated.

All aircraft of these designations are operated by the US Army National Guard, none are in civil operation and we are unaware of any expectation of them moving to civil operation (Part 121 or otherwise) within the timeframe pertinent to the Part 26 requirements associated with our exemption petitions.

Indeed, we included within the last input in support of our petitions a statement/ confirmation that the organizations contracted by the government to maintain

these aircraft have declared no requirement to adopt maintenance program changes specified in §§ 121.1109 and 121.1111.

Federal Register publication

A summary of the petition was published in the *Federal Register* on June 6, 2008 (73 FR 32383). We received two comments from Freedom Air, an airplane operator. Freedom Air opposes granting the exemption to Bombardier. As the design approval holder (DAH), if Bombardier is granted an exemption from 14 CFR part 26 §§ 26.11, 26.43, 26.45, and 26.49, as applicable to the Shorts SD3-60, Freedom Air would have to develop the data required by part 26. Freedom Air states that the cost of developing the data would place it in financial hardship and that it does not have the engineering and operational data needed to develop the required data.

The FAA's analysis

The FAA has developed criteria to consider when deciding whether to grant or deny a design approval holder's (DAH) petition for exemption from part 26 requirements. 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 following table.

Table 1

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

	If the airworthiness authority for the state of design is	And	And	And	Then
1	The FAA	No airplanes are operating under part 121 and it is unlikely that any will do so in the future[3]	No airplanes are operating under part 129 (N-registered) and it is unlikely that any will do so in the future[3]	No airplanes are being operated by a foreign air carrier and it is unlikely that any will do so in the future[3]	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[1] and it is unlikely that any will return to such service in the future[3]	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 [1] and it is unlikely that any will return to such service in the future[3]	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 [1] and it is unlikely that any will return to such service in the future[3]	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 [3]	No airplanes are operating under part 129 (N-registered) and it is unlikely that any will do so in the future [3]		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[2] and it is unlikely that any will return to such service in the future[3]	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[2] and it is unlikely that any will return to such service in the future [3]		The DAH may be eligible for an exemption

[1] 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.

[2] 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.

[3] 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 this: The part 26 rules require DAHs to develop data for use by operators. If there are no operators for a particular airplane who are required by a part 121 rule to use such data, it would not be prudent for the DAH to develop it. 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.

The FAA has reviewed Short Brothers plc's request and has determined that a partial grant of this exemption would not have an adverse effect on public safety and would be in the public interest based on the following information:

Model SD3-60 SHERPA

The FAA is not the airworthiness authority for the state of design for the Model SD3-60 SHERPA airplane. There are currently no US-registered Model SD3-60 SHERPA airplanes operating under parts 121 or 129. The FAA concurs with Short Brothers' statement that there is no historic evidence of this SD3 type reverting to part 121 or 129 operations.

As a result, Short Brothers plc Model SD3-60 SHERPA airplanes meet the baseline exemption criteria for part 26. There are no other factors to be considered regarding Short Brothers' petition for exemption for Model SD3-60 SHERPA airplanes.

Model SD3-60

The FAA is not the airworthiness authority for the state of design for the Model SD3-60 airplane. One operator of a US registered SD3-60 aircraft currently operates in accordance with part 121 requirements. This operator intends to continue operation in accordance with part 121 beyond December 2010. Granting such an exemption may adversely affect safety because there is at least one airplane that would be required to incorporate the data that would be generated by Shorts Brothers plc required by §§ 26.43, 26.45, and 26.49. Section 121.1109(c)(2) will require the operator of the SD3-60 airplane to address the adverse affects that repairs and alterations may have on fatigue critical structure. Without the support of Shorts Brother plc, the operator may have difficulty complying with § 121.1109(c)(2). Further, there are other airplanes of the same type and similar configuration that could be operated under part 121 or part 129 beyond December 2010.

As a result, Shorts Brother plc Model SD3-60 airplanes <u>do not</u> meet the baseline exemption criteria for part 26. As stated in the preamble of the final rule, the purpose of

this regulation is to require design approval holders to make available damage tolerance data for repairs and alteration to fatigue critical airplane structure to operators of airplanes that will be used in part 121 and 129 operations beyond December 20, 2010. This data is necessary for operators to comply with operational requirements to ensure that these airplanes are not at risk of catastrophic structural failure from fatigue cracking. Since there is an operator that intends to operate an SD3-60 airplane in part 121 operations beyond December 20, 2010, it is not in the public interest to grant this exemption.

Additional information

This partial grant of exemption grants relief to Short Brothers plc from having to meet the requirements of §§ 26.43, 26.45, and 26.49 for the development of damage tolerance data for repairs and alterations for the Shorts Brothers Model SD3-60 SHERPA. This exemption does not grant relief from the related operational requirements contained in § 121.1109 or § 129.109. Should a person choose to operate a Short Brothers Model SD3-60 SHERPA airplane under part 121 or part 129 beyond the operational compliance deadlines as stated in § 121.1109 or § 129.109, that person will be required to comply with those operational requirements.

Supplemental Type Certificate (STC) holders and applicants

Section 26.47 requires STC holders and applicants to use damage tolerance data developed by the TC holder to identify all alterations that affect fatigue critical baseline structure and fatigue critical alteration structure. However, if the FAA grants Short Brothers plc's petition for the Model SD3-60 SHERPA, applicable STC holders and applicants will not be able to comply with the requirements of § 26.47. 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 partial grant of exemption that grants relief to Short Brothers plc from having to meet the requirements of §§ 26.43, 26.45, and 26.49 for the development of damage tolerance data for repairs and alterations for the Shorts Brothers Model SD3-60 SHERPA is in the public interest. However, I do not find that a grant or partial grant of exemption is in the public interest for the Short Brothers Model SD3-60. Therefore, pursuant to the authority contained in 49 U.S.C. §§ 40113 and 44701, delegated to me by the Administrator, Short Brothers plc, is hereby granted an exemption from 14 CFR 26.43, 26.45, and 26.49 for only Model SD3-60 SHERPA airplanes. Short Brothers plc's petition for Model SD3-60 airplanes is denied.

In addition, since the FAA does not intend for these rules to apply to a 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 Model SD3-60 SHERPA airplanes.

Issued in Renton, Washington, on May 15, 2009.

Signed by Ali Bahrami

Ali Bahrami
Manager, Transport Airplane Directorate
Aircraft Certification Service