**Exemption No. 10325**

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

| | |
|---|---|
| In the matter of the petition of<br><br>Leading Edge Group, LLC<br><br>for an exemption from § 26.47 and § 26.49 of Title 14, Code of Federal Regulations | **Regulatory Docket No. FAA-2010-0309** |

## PARTIAL GRANT OF EXEMPTION

By letter dated May 28, 2010 and Petition for Exemption Summary Report ASE 110214, dated February 14, 2011, Mr. Karl Seuring of The Leading Edge Group (LEG), LLC, dba AirSpeed Engineering (ASE), 3425 Carillon Point, Kirkland, WA, 98033, petitioned the Federal Aviation Administration (FAA) for an exemption from the requirements of Title 14, Code of Federal Regulations (14 CFR) 26.47 and 26.49. Sections 26.47 and 26.49 are related to the development of damage-tolerance data for alterations and repairs to alterations. This exemption is requested for the following supplemental type certificates (STC) listed in the table below as installed on the aircraft identified.

**Table 1: LEG Supplemental Type Certificates for Exemption Consideration**

| STC Number | Aircraft Type | Aircraft Serial Number |
|---|---|---|
| ST00466NY | Boeing B727-100 | 19254, 20327 |
| SA62NE | Boeing B727-100 | 18990, 19148, 19260, 19261, 19262, 19318, 19394, 19535, 20046 |
| SA392NE | Boeing 727-100 | 20489 |
| SA387NE | Boeing B727-100/200 | 18326, 18800, 22043, 22044 |
| SA530NE | Boeing B727-200 | 18323, 18752, 18933 |
| SA84NE | Boeing B727-200 | 21460 |
| SA450NE | Boeing B727-200 | 21946 |
| SA936NE | McDonnell Douglas DC8-62 | 46071 |
| ST00605NY | McDonnell Douglas DC9-33 | 47428, 47496, 47545, 47565 |

| STC Number | Aircraft Type | Aircraft Serial Number |
|---|---|---|
| ST00409NY | McDonnell Douglas DC-9-81/82/83 | 49569, 49572, 49844, 53149, 53150 |
| ST00040NY | Boeing B737-500 | 24970 |
| SA83NE | Boeing 737-200 | 22628, 22431 |
| SA1078NE | Boeing B737-200 | 22600 |
| SA1265NE | Boeing 737-269 | 21206 |
| ST01337NY | Boeing B737-500 | 28866 |
| SA542NE | Boeing 737-300 | 27924 |
| SA714NE | Boeing B737-300 | 24095 |
| ST01552NY | Boeing B737-300 | 24095 |

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

**Section 26.47 – Holders of and applicants for a supplemental type certificate, alterations and repairs to alterations**, which requires development of damage tolerance data for alterations and repairs to alterations.

**Section 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 section quotes the petitioner's letter dated May 28, 2010. The complete petition is available at the Department of Transportation's Federal Docket Management System (FDMS), on the Internet at http://regulations.gov, in docket no. FAA-2010-0309.

**Reasons Why the Exemption Would Not Adversely Affect Public Safety**

Air safety would not be adversely impacted given the "case-by-case" contingency planning for AASFR [Aging Aircraft Safety Final Rule] compliance activity by the STC holder, as described in Question #1. If a given airframe does not re-enter US commercial service, the impact on safety is moot and the specific level of safety realized is acceptable.

The qualification of AASFR responsibilities also has relevant economic barriers. To re-enter commercial service for example, an aging aircraft converted to a VIP configuration and returning to FAR 121 or 129 charter service has limited competitive business opportunities based on engine / airframe efficiencies.

1. STCs held by LEG/AirSpeed are installed on relatively inefficient airframes when compared to B737-700 & 800 (Boeing business-jet designs) presently offered as charter-lift in a competitive VIP commercial market. Compelling business opportunities are limited and risky for VIP charter flying with an aging airframe in FAR 121 or 129.

2. Converting an aging aircraft back to "hi-density" or "sports charter" LOPA [layout of passenger accommodation] becomes an excessive cost that can be

mitigated by purchasing a newer more fuel efficient aircraft. Many SNs [serial numbers] are readily available and presently-configured for commercial applications. In this case, the business opportunities further decrease given increased modification costs and amortization of efficiencies over the lifetime of the airframe changes.

3. In "high-utilization" LOP service, operating a B727 or inefficient B737 is cost-prohibitive in today's highly competitive airplane marketplace. Further, baggage space requirements for hi-density seating would require the commercial airframes, currently configured for various passenger LOPAs, can be acquired as better values.

ASE's Contingency Planning for DTE/DTI [damage-tolerance evaluation/damage-tolerance inspection] allows a given SN to be properly inspected and modifications documented that may have become changes or overlays to the original PATS [PATS Aircraft Systems, Inc.] design. FAA states a plan for, "… fatigue cracking that could contribute to catastrophic failure and a means for addressing the adverse repairs, alterations, and modifications," are best reviewed by SN survey. All modifications can be integrated with DTE/DTI safety planning under the AASFR, given proper airframe access and disclosure.

**Reason the Exemption Would Benefit the Public Interest**

Application of the Aging Aircraft Safety Final Rule (AASFR) is required of auxiliary fuel system equipped aircraft operating in 14 CFR 121 and 129 (or EASA [European Aviation Safety Agency]) commercial flight operations. LEG/AirSpeed observes three (3) discussion points of public interest:

1. A LEG/AirSpeed auxiliary fuel system (AFS) may be deactivated and/or removed (with Tanks-OUT).

2. The AFS is not a required appliance/system necessary for normal flight. See FAA Airworthiness Directive 2008-22-01.

3. A given SN may be scrapped, derelict, stripped for parts or, presented for other non-commercial use or applications.

However, in the event a given aircraft returns to commercial service (with or without the AFS activated) a contingency plan for AASFR compliance and AFS penetrations into the airframe structure (DTE/DTI) has been developed by LEG. This DTE/DTI "case-by-case" planning is currently in use by ASE to supplement a default plan used by FAA used on "other" non-supported AFS for Operators that elect commercial service.

For an example, LEG/AirSpeed is currently developing a B737-300 Tanks-OUT de-modification with SN 27924 returning from VIP to EASA commercial service. ASE previously had listed this STC in a matrix for Exemption, given the interior configuration. ASE's active DTE/DTI contingency planning is underway with NYACO [New York Aircraft Certification Office], as the PATS tank is removed and, this airframe converts from VIP to "sports charter" LOPA.

Otherwise, engineering data submitted by the Design Approval Holder (DAH) expends FAA time and engineering resources that would not be required (nor requested) by an Operator. Given airframe age, DTE/DTI has limited value for other foreign or US Government applications. FAA engineering time budgeted for engineering (NRE [non-recoverable expense]) reviews is an unnecessary taxpayer expense affixed to FAA's budget. LEG/ASE concludes FAA resources expended under these circumstances would not be in the public's best interest.

**Federal Register publication**

The FAA has determined that good cause exists for waiving the requirement for Federal Register publication because this exemption, if granted, would not set a precedent, and recent, similar petitions have received no public comments.

**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 table that follows.

**Table 2: Criteria for Considering Eligibility for Exemption from §§ 26.11, 26.43, 26.45, 26.47, or 26.49**

| If the airworthiness authority for the state of design is | And | And | And | Then |
|---|---|---|---|---|
| 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 |
| | 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 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] | |
| 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] | – | |
| | 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 after the operational-rule compliance date[2] and it is unlikely that any will return to such service in the future[3] | – | |

[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 that the rules require DAHs to develop data for operators to use. If a particular airplane has no operators who are required by the rules to use such data, it would be a poor use of resources for the DAH to develop the 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 no airplanes would be required to incorporate the data, nor is it likely that there will be any in the future.

The FAA is the airworthiness authority for the state of design for LEG STCs identified in Table 1 above. As noted in Table 3, certain STCs (see Table 3 footnote 1) are installed on airplanes that no longer exist, or are no longer used in service (scrapped, or parted out, or museum-bound), or are installed on airplanes configured for military use. These airplanes are currently not used in 14 CFR parts 121 or 129 operations, and are unlikely to enter domestic or foreign air-carrier service in the future based on the age of the airplanes and the current configuration.

**Table 3: Supplemental Type Certificates – Airplane Status**

| STC Number | Aircraft Type | Aircraft Serial Number | Aircraft Status |
|---|---|---|---|
| ST00466NY | Boeing B727-100 | 19254 | foreign registry, private use |
| | | 20327 | foreign registry, private use |
| SA62NE | B727-100 | 18990 | head of state, foreign government |
| | | 19148 | charter |
| | | 19260 | private use |
| | | 19261 | private use |
| | | 19262 | private use |
| | | 19318 | foreign air carrier |
| | | 19394 | foreign government |
| | | 19535 | private use, stored |
| | | 20046 | private use |
| SA392NE[1] | Boeing 727-100 | 20489 | scrapped |
| SA387NE | Boeing B727-100/200 | 18326 | scrapped |
| | | 18800 | scrapped |
| | | 22043 | domestic charter/lease, stored |
| | | 22044 | foreign air carrier, stored |
| SA530NE | Boeing B727-200 | 18323 | foreign registry, VIP configuration |
| | | 18752 | foreign registry, retired |
| | | 18933 | foreign registry, VIP configuration |
| SA84NE | Boeing B727-200 | 21460 | foreign registry, private use |
| SA450NE[1] | Boeing B727-200 | 21946 | US Air Force, museum |
| SA936NE | McDonnell Douglas DC8-62 | 46071 | foreign registry |

[1] These airplanes no longer exist, or are no longer used in service (scrapped, parted out, or museum-bound), or are installed on airplanes configured for military use.

| STC Number | Aircraft Type | Aircraft Serial Number | Aircraft Status |
|---|---|---|---|
| ST00605NY[1] | McDonnell Douglas DC9-33 | 47428 | US Navy, museum |
| | | 47496 | US Navy |
| | | 47545 | US Navy |
| | | 47565 | US Navy |
| ST00409NY | McDonnell Douglas DC-9-81/82/83 | 49569 | foreign registry |
| | | 49572 | foreign registry |
| | | 49844 | foreign registry |
| | | 53149 | foreign registry |
| | | 53150 | foreign registry, stored |
| ST00040NY | Boeing B737-500 | 24970 | private use |
| SA83NE | Boeing 737-200 | 22628 | foreign registry, private use |
| | | 22431 | foreign registry, private use, stored |
| SA1078NE | Boeing B737-200 | 22600 | foreign registry, private use |
| SA1265NE[1] | Boeing 737-269 | 21206 | foreign registry, retired/part-out |
| ST01337NY | Boeing B737-500 | 28866 | head of state, foreign government |
| SA542NE | Boeing 737-300 | 27924 | currently being modified |
| SA714NE | Boeing B737-300 | 24095 | head of state, foreign government |
| ST01552NY | Boeing B737-300 | 24095 | head of state, foreign government |

Granting an exemption for Leading Edge Group STCs SA392NE, SA450NE, ST00605NY, and SA1265NE would not have an adverse effect on public safety and would be in the public interest because these STCs are installed on airplanes that no longer exist, are no longer in service, or are installed on airplanes configured for military use. None of these airplanes are likely to be entered into commercial passenger service in the future. Regarding the remaining STCs for which LEG seeks exemption, LEG has provided insufficient data to show that the affected airplanes would not enter into commercial passenger service in the future. Therefore, the FAA cannot ensure that granting an exemption for LEG STCs other than SA392NE, SA450NE, ST00605NY, and SA1265NE would have no adverse effect on public safety.

As stated below, this exemption does not grant relief to the related operational requirements of parts 121 and 129. Any person who chooses to enter airplanes into service under those parts would need to comply with those operational requirements.

**Additional information**

This exemption grants relief to LEG from having to meet the requirements of 14 CFR 26.47 and 26.49 for STCs SA392NE, SA450NE, ST00605NY, SA1265NE for development of damage-tolerance data for alterations and repairs to alterations. This exemption does not grant relief from the related operational requirements contained in 14 CFR 121.1109 or 129.109. Should a person choose to operate an airplane with one or more of these STCs, 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.

The FAA acknowledges LEG's contingency plan to perform the necessary damage-tolerance evaluations and provide the required damage-tolerance inspections should a person choose to operate an airplane with one or more of these STCs under part 121 or part 129 beyond the operational compliance deadlines as stated in § 121.1109 or § 129.109. The FAA considers this contingency-plan action to be solely at the discretion of LEG. This proposed plan was not considered in the FAA's evaluation of LEG's petition for exemption.

**The FAA's decision**

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, LEG is hereby granted an exemption from §§ 26.47 and 26.49 for only STCs SA392NE, SA450NE, ST00605NY, and SA1265NE. LEG must comply with §§ 26.47 and 26.49 for all other STCs listed in Table 1.

Issued in Renton, Washington on AUG 05 2011

Ali Bahrami
Manager, Transport Airplane Directorate
Aircraft Certification Service