

COMMUTED TRAVELTIME ALLOWANCES  
[In hours]

Locations covered	Served from	Metropolitan area	
		Within	Outside
* * * * *			*
New York:			
* * * * *			*
Champlain .....	Highgate, VT .....	2	.....
* * * * *			*

Done in Washington, DC, this 9th day of October 1997.

**Craig A. Reed,**

*Acting Administrator, Animal and Plant Health Inspection Service.*

[FR Doc. 97-27426 Filed 10-15-97; 8:45 am]

BILLING CODE 3410-34-P

## FEDERAL RESERVE SYSTEM

### 12 CFR Part 213

[Regulation M; Docket Nos. R-0892, R-0952, and R-0961]

#### Consumer Leasing; Delay of Compliance Date; Correction

**AGENCY:** Board of Governors of the Federal Reserve System.

**ACTION:** Final rule; delay of compliance date; correction.

**SUMMARY:** This document corrects the preamble to the document published in the **Federal Register** on September 30, 1997 (62 FR 51006), regarding the delay of the mandatory compliance date for Regulation M, which implements the Consumer Leasing Act. This correction clarifies that the delay of the mandatory compliance date for the revised regulation applies not only to the final rule published in the **Federal Register** in October 1996, but also to an amendment published on April 1, 1997 (62 FR 15364), and the official staff commentary published on April 4, 1997 (62 FR 16053).

**DATES:** The date for mandatory compliance with the final rule published on October 7, 1996 (61 FR 52246), an amendment published on April 1, 1997 (62 FR 15364), and the official staff commentary published on April 4, 1997 (62 FR 16053), is delayed until January 1, 1998.

**FOR FURTHER INFORMATION CONTACT:** Kyung H. Cho-Miller or Obrea O. Poindexter, Staff Attorneys, Division of Consumer and Community Affairs, Board of Governors of the Federal Reserve System, Washington, DC 20551,

at (202) 452-2412 or 452-3667. For users of Telecommunications Devices for the Deaf (TDDs), please contact Diane Jenkins at (202) 452-3544.

#### Correction

In the Board document for Docket R-0892 published on September 30, 1997, beginning on page 51006 in the **Federal Register**, the Dates section is corrected to read:

**Dates:** The date for mandatory compliance with the final rule published on October 7, 1996 (61 FR 52246), an amendment published on April 1, 1997 (62 FR 15364), and the official staff commentary published on April 4, 1997 (62 FR 16053), is delayed until January 1, 1998.

By order of the Board of Governors of the Federal Reserve System, acting through the Secretary of the Board under delegated authority, October 8, 1997.

**William W. Wiles,**

*Secretary of the Board.*

[FR Doc. 97-27276 Filed 10-15-97; 8:45 am]

BILLING CODE 6210-01-P

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 23

[Docket No. 136CE, Special Condition 23-ACE-88]

#### Special Conditions; Ballistic Recovery Systems Cirrus SR-20 Installation

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final special conditions.

**SUMMARY:** These special conditions are being issued to become part of the type certification basis for the Ballistic Recovery Systems, Inc., (BRS) parachute recovery system installed in the Cirrus SR-20 Model airplane. This system is referred to as the General Aviation Recovery Device (GARD). Airplanes modified to use this system will incorporate novel or unusual design features for which the applicable

airworthiness regulations do not contain adequate or appropriate safety standards. These special conditions contain the additional airworthiness standards that the Administrator considers necessary to establish a level of safety equivalent to the original certification basis for these airplanes.

**EFFECTIVE DATE:** November 17, 1997.

**FOR FURTHER INFORMATION CONTACT:** Lowell Foster, Aerospace Engineer, Standards Office (ACE-110), Small Airplane Directorate, Aircraft Certification Service, Federal Aviation Administration, 601 East 12th Street, Kansas City, Missouri 64106; telephone (816) 426-5688.

#### SUPPLEMENTARY INFORMATION:

##### Background

On March 7, 1996, Cirrus Design, 4515 Taylor Circle, Duluth, MN 55811, filed an application for a type certificate (TC). Included in this TC application was the provision to install the BRS GARD parachute recovery system as standard equipment on each Cirrus Model SR-20 airplane. The parachute recovery system is intended to recover an airplane in emergency situations such as mid-air collision, loss of engine power, loss of airplane control, severe structural failure, pilot disorientation, or pilot incapacitation with a passenger on board. The GARD system, which is only used as a last resort, is intended to prevent serious injuries to the airplane occupants by parachuting the airplane to the ground.

The parachute recovery system consists of a parachute packed in a canister mounted on the airframe. A solid propellant rocket motor deploys the canopy and is located on the side of the canister. A door positioned above the canister seals the canister, parachute canopy, and rocket motor from the elements and provides free exit when the canopy is deployed. The system is deployed by a mechanical pull handle mounted so that the pilot and passenger can reach it. At least two separate and

independent actions are required to deploy the system.

A multi-cable bridle attaches the canopy bridle to the airplane primary structure. The cable lengths are sized to provide the best airplane touchdown attitude. The cables are routed from the parachute canister thru the fuselage and run externally to the fuselage attach points. The external portion of these cables are covered with small frangible fairings.

#### **Type Certification Basis**

The type certification basis for the Cirrus Model SR-20 is as follows: 14 CFR part 23, effective February 1, 1965, including Amendments 23-1 through 23-47; 14 CFR part 36, effective December 1, 1969, including Amendments 36-1 through the amendment in effect at the time of U.S. certification; Equivalent Level of Safety Findings; Exemptions approved by the FAA (14 CFR part 11, § 11.27; Section 611(b) of the FAA Action of 1958 (49 U.S.C. 44715); and the special conditions adopted by this rulemaking action.

#### **Discussion**

Special conditions may be issued and amended, as necessary, as part of the type certification basis if the Administrator finds that the airworthiness standards designated in accordance with 14 CFR part 21, § 21.16 do not contain adequate or appropriate safety standards because of the novel and unusual design features of the airplane modification. Special conditions, as appropriate, are issued after public notice in accordance with § 11.49 (as amended September 25, 1989), as required by §§ 11.28 and 11.29(b). The special conditions become part of the type certification basis, as provided by § 21.17(a)(2).

The installation of parachute recovery systems in 14 CFR part 23 airplanes was not envisioned when the certification basis for these airplanes was established. In addition, the Administrator has determined that current regulations do not contain adequate or appropriate safety standards for a parachute recovery system; therefore, this system is considered a novel and unusual design feature. The flight test demonstration requirements will ensure that the parachute recovery system will perform its intended function without exceeding its strength capabilities. Demonstrations will be required to show that the parachute will deploy in specified flight conditions. These conditions are a minimum of maneuvering speed,  $V_O$  or higher, and deployment during a one-turn spin

entry. If the airplane does not depart, the condition is the maneuver that results from pro-spin control inputs held for one turn, or three seconds, whichever comes first.

Occupant restraint requirements will ensure that the airplane is equipped with a restraint system designed to protect the occupants from injury during parachute deployment and ground impact. Each occupant seat must meet the requirements of 14 CFR part 23, § 23.562 as part of the original certification basis.

Requirements for parachute performance will ensure all of the following: (a) The parachute complies with the applicable section of TSO-C23c (SAE AS8015A) at the maximum airplane weights. (b) The parachute deployment loads do not exceed the structural strength of the airplane. (c) The system will provide a ground impact that does not result in serious injury of the passengers. (d) The system will operate in adverse weather conditions.

The requirements for the functions and operations of the parachute recovery system will ensure all of the following: (a) There is no fire hazard associated with the system. (b) The installation of this system allows relief from another part 23 requirement, spins. For this reason, it will need to be operational for all flights. (c) That the system will work in all weather conditions that the airplane is approved to operate in, including the IFR and icing environments. (d) The sequence of arming and activating the system will prevent inadvertent deployment. (e) The system can be activated from either the pilot's or the copilot's position by various sized people. (f) The system will be labeled to show its identification function and operating limitations. (g) A warning placard will be located on the fuselage near the rocket motor to warn rescue crews of the ballistic system. (h) The FAA-approved flight manual will include a thorough explanation of system's operation and limitations as well as the safe deployment envelope. (i) The occupants are protected from serious injury after touchdown in adverse weather.

Requirements for protection of the parachute recovery system will ensure the following: the system is protected from deterioration due to weathering, corrosion, and abrasion; provisions are made to provide adequate ventilation and drainage of the airplane structure that houses the parachute canister.

Requirements for a system inspection provision will ensure that adequate means are available to permit examination of the parachute recovery

system components and that instructions for continued airworthiness are provided.

Requirements for operating limitations of the parachute recovery system will ensure that the system operating limitations and deployment envelope are prescribed, including inspection, repacking, and replacing the system's parachute deployment mechanism at approved intervals.

#### **Discussion of Comments**

Notice of Proposed Special Conditions, Notice No. 23-ACE-88, Docket No. 136CE was published in the **Federal Register** on February 6, 1997, and the comment period closed March 10, 1997. Following is a summary of the comments received and a response to each comment.

Only one commenter responded to the notice and that was Cirrus Design. They offered five comments, all of which are addressed below.

1. *Comment.* Paragraph 1(a). Proposed Special Condition, Docket No. 136CE, 23-ACE-88 does not contain provisions for the flight test demonstration to be conducted on an aircraft having similar characteristics as was accepted for Docket No. 118CE, 23-ACE-76, Special Conditions: Ballistic Recovery Systems, Modified for Small General Aviation Aircraft. Cirrus proposes to modify the current language of 1(a) to include: "The system may be demonstrated on an aircraft having similar characteristics (such as configuration, weight, and speed) and similar installation." The crucial elements here are the mass distribution of the aircraft and center of gravity (moment of inertia), the location of the riser attachments relative to the c.g., and the riser configurations. The flight demonstration is conclusive if these elements are similar. An example of this situation would be that of demonstrating the operation of the recovery system in a development prototype aircraft similar to that of the type design aircraft. It is only a matter of necessary conformity and degree of similarity. The allowance for "similar" aircraft flight demonstration is a logical inclusion and will require a case by case review. This provision was found acceptable for 23-ACE-76 and, therefore, is acceptable for any STC installations. A TC application should not, by law, require more stringent conditions.

*FAA Response.* The special conditions for BRS installations referred to by Cirrus; 23-ACE-76, Docket No. 118CE, were originally intended for airplanes similar to the Quicksilver GT-500 and they were intended for general applicability for certificated small

airplanes. The Cirrus special conditions do not include this provision because they are unique to the model SR-20. On a model specific special condition, general applicability items are not appropriate. This does not imply that minor design variations in the model would require additional testing.

The FAA agrees that the crucial elements are mass distribution, moment of inertia, riser attachments and configurations. If these crucial elements remain essentially constant with minor design variation, then credit for GARD testing should apply to both airplanes. This issue has been adequately addressed in this preamble and no change in the special conditions is necessary.

2. *Comment.* Paragraph 1(b)(2). It is recommended that item 1(b)(2) be changed to: "maximum allowable deployment speed with 1g normal load." The use of this type of safety equipment is in its infancy and analytical predictions of deployment dynamics are challenging. Based on this, the loads used in the design phase are estimations based on the best information available. The actual loads are determined during flight testing and fix the maximum allowable deployment speed that the designed structure can withstand. A requirement for a system to be deployed at  $V_{NE}$  not only offers extreme risk within a development and certification program, but also extends beyond that which is necessary to offer increased safety to the pilot and passengers for the portion of the flight envelope reflecting the largest numbers of accidents. This equipment is provided to give the pilot an additional option for recovery in a critical situation. The deployment envelope should be clearly placarded; beyond which point system operation is prohibited/not recommended. However, the mere presence of the equipment does offer a certain increase in safety. This option to the pilot should not be totally withdrawn because of the *potential* inability of the system to be deployed at  $V_{NE}$ . In order to use the GARD system for the spin ELOS, the system need only be safely deployed in a spin situation. Deployments at any other time are an increase in safety above that which is required by FARs.

This requirement also significantly affects customer value. Not all aircraft [especially high performance] can offer this equipment with  $V_{5NE}$  envelope capability while maintaining an overall aircraft value/utility, due to the severe structural requirements (energy as the square of the velocity). Should pilots of these aircraft be denied the use of this equipment when in a critical low speed

situation? As a final note, a maximum deployment speed other than  $V_{NE}$  was found to be acceptable for the GARD 150 program, which also began with a  $V_{NE}$  requirement, 23-ACE-33, Special Conditions: Ballistic Recovery System, Inc., Modified Cessna 150/A150 Series Airplanes and 152/A152 Model Airplanes to Incorporate the GARD-150 System.

*FAA Response.* The FAA developed the original special conditions for the Ballistic Recovery System GARD-150 System based on what was believed to be appropriate at that time. Ideally, it is desirable for any safety device to operate over the entire flight envelope of the airplane it is installed in. Based on this ideal, the original special conditions were intended to cover operation from stall to  $V_{NE}$ . Prior to the Cessna 150 STC installing the GARD-150, the typical airplanes that installed a ballistic parachute recovery system could use the system over the entire flight envelope because they were very light, low performance vehicles. The Cirrus SR-20 is a heavy, high performance airplane by comparison. There are challenging technical issues to address with this installation, one of them is the maximum demonstrated deployment speed.

Cirrus is installing the BRS GARD system not only for general safety improvements but also for relief from the spin recovery demonstrations required by part 23. The FAA agrees with Cirrus that a requirement for deployment at  $V_{NE}$  is not relative to a requirement for an equivalent safety finding for spin recovery. The FAA, however, disagrees with Cirrus's recommended change because it is open ended, allowing any speed above stall to meet the special condition.

The introduction of innovative safety devices, such as ballistic parachute recovery systems, is important to the FAA's goal of reducing fatal accidents. For this reason, the FAA met with representatives from Cirrus to discuss the maximum deployment demonstration issue. Cirrus' concern, as expressed in their comments, focuses on the risk of developing the system that will safely deploy throughout most of the airplane's speed range, falling just short of  $V_{NE}$  and, hence, not receiving approval to install the system in their airplane. Furthermore, Cirrus argues that the mere presence of the GARD system offers a certain increase in safety; therefore, specifying a maximum deployment speed that may not be achievable risks negating the GARD system installation. This action would not be in the best interest of safety.

It is important to understand that this issue does not concern operational deployment by pilots directly. It addresses the deployment tests required by this special condition for certification. The test airplane used for the GARD system deployments must be safely used for multiple deployments. This means that the airplane must remain airworthy after GARD system deployment so that the parachute can be cut away and the airplane safely landed. In operational use, the airplane does not need to remain airworthy after parachute deployment because it is committed to returning to the ground. Once the parachute is deployed in operation, the airplane is going to the ground and probably will not be in an airworthy condition after the landing. Moreover, the FAA should be clear that our concern is that of occupant safety. If the initial opening shock of the GARD system fails parts of the airframe, that is acceptable as long as the occupants meet the safety requirements of these special conditions. The point of this discussion is that an acceptable operational deployment of the GARD system may not be acceptable in the flight test deployment case because the airplane could sustain serious damage, preventing the completion of the flight test program.

After discussing all technical points and positions, the FAA agreed that the appropriate course was to require a maximum deployment speed based on the equivalent safety finding. The equivalent safety finding provides relief from the spin recovery demonstration requirements of § 23.221. The entry requirement for a spin is a stall; therefore, the FAA determined that an acceptable maximum demonstrated deployment speed for the GARD system must be at least  $V_0$ , the maximum speed at which, with a full deflection control input, the airplane will stall before reaching limit load on the airframe. This will provide adequate margin for the safe application of the equivalent safety finding and reduce Cirrus' concern that their GARD system installation would not be approved. The FAA also acknowledges that it is Cirrus' goal to push the GARD system deployment speed as high as possible within practical constraints.

3. *Comment.* Paragraph 3(b). It is suggested that this paragraph include "and the parachute assembly."

*FAA Response.* The FAA agrees and will incorporate the comment.

4. *Comment.* Paragraph 4(b). This paragraph states that a "system failure must be shown to be extremely improbable." Previous requirements for this type of system, reference 23-ACE-

76, cited that the system, "must be shown to function reliably and to perform its intended function."

The previous requirements were appropriate for equipment that increases the level of safety of the airplane. Reliability of "extremely improbable," as defined in AC 23-1309, cannot be reasonably shown quantitatively. The system, as designed, can deliver functional reliability. The testing required on incipient spin recovery will not quantify a demonstration of "extremely improbable."

The critical firing system is designed with similar methodology as redundant load path structure. There are two firing primers, where only one is necessary for ignition of the rocket. The remainder of the system is mechanical in nature with few parts. The following is offered as a possible change to the wording: "activation system must be shown to function reliably [such as redundant ignition sources] and to perform its intended function."

**FAA Response.** The FAA agrees in principle with Cirrus' comments concerning reliability. The following changes are included in these special conditions.

"Discussion" section:

The probability that the system will operate as designed is very high.

"Special Conditions" section:

The system must be shown to perform its intended function with a high probability that it will operate as designed.

5. *Comment.* Paragraph 7(b). Based on the comments of Paragraph 1(b)(2) above, it is also recommended that 7(b) be removed from this special condition. Again, the ELOS does not maintain applicability to the high speed portion of the flight envelope and, therefore, the equipment should not be required to operate in this speed range.

**FAA Response.** Addressed in the earlier discussion concerning deployment demonstration at  $V_{NE}$ .

## Conclusion

The following special conditions are issued for the Cirrus SR-20 airplane. This action affects only novel and unusual design features on specified model/series airplanes. It is not a rule of general applicability and affects only those applicants who apply to the FAA for approval of these features on these airplanes.

## List of Subjects in 14 CFR Part 23

Aircraft, Aviation safety, and Signs and Symbols.

## Citation

The authority citation for this special condition is as follows:

**Authority:** 49 U.S.C. 106(g), 40113 and 44701; 14 CFR 21.16 and 101; and 14 CFR 11.28 and 11.49.

## Adoption of Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration issues the following special conditions as part of the type certification basis for the Cirrus Model SR-20 airplanes:

### 1. Flight Test Demonstration

(a) The system must be demonstrated in flight to satisfactorily perform its intended function, without exceeding the system deployment design loads, for the critical flight conditions.

(b) Satisfactory deployment of the parachute must be demonstrated, at the most critical airplane weight and balance, for the following flight conditions:

(1) One of the two maneuvers, (i) or (ii), must be performed for the low speed end of the flight envelope;

(i) Spin with deployment at one turn or 3 seconds, whichever is longer; or

(ii) Deployment immediately following the maneuver that results from a pro-spin control input held for one turn or 3 seconds, whichever is longer.

(2) A minimum of maneuvering speed,  $V_O$  or higher;

### 2. Occupant Restraint.

Each seat in the airplane must be equipped with a restraint system, consisting of a seat belt and shoulder harness, that will protect the occupants from head and upper torso injuries during parachute deployment and ground impact at the critical load conditions.

### 3. Parachute Performance

(a) The parachute must comply with the applicable requirements of TSO-C23c, or an approved equivalent, for the maximum airplane weight at paragraph 1(b)(2).

(b) The loads during deployment must not exceed 80 percent of the ultimate design load for the attaching structure, the cabin structure surrounding the occupants, and any interconnecting structure of the airplane.

(c) It must be shown that, although the airplane structure may be damaged, the airplane impact during touchdown will result in an occupant environment in which serious injury to the occupants is improbable.

(d) It must be shown that, with the parachute deployed, the airplane can impact the ground in various adverse weather conditions, including winds up

to 15 knots, without endangering the airplane occupants.

## 4. System Function and Operations

(a) It must be shown that there is no fire hazard associated with activation of the system.

(b) The system must be shown to perform its intended function with a high probability that it will operate as designed.

(c) It must be shown that reliable and functional deployment in the adverse weather conditions that the airplane is approved for have been considered. For example, if the aircraft is certified for flight into known icing, and flight test in actual icing reveals that ice may cover the deployment area, then the possible adverse effects of ice or an ice layer covering the parachute deployment area should be analyzed.

(d) It must be shown that arming and activating the system can only be accomplished in a sequence that makes inadvertent deployment extremely improbable.

(e) It must be demonstrated that the system can be activated without difficulty by various sized people, from a 10th percentile female to a 90th percentile male, while sitting in the pilot or copilot seat.

(f) The system must be labeled to show its identification, function, and operating limitations.

(g) A warning placard must be located on the fuselage near the rocket motor warning of the rocket.

(h) The FAA-approved flight manual must include a thorough explanation of operation and limitations as well as the safe deployment envelope.

(i) It must be shown that the occupants will be protected from serious injury after touchdown under various adverse weather conditions, including high winds.

## 5. System Protection

(a) All components of the system must provide protection against deterioration due to weathering, corrosion, and abrasion.

(b) Adequate provisions must be made for ventilation and drainage of the parachute canister and associated structure to ensure the sound condition of the system.

## 6. System Inspection Provisions

(a) Instructions for continued airworthiness must be prepared for the system that meet the requirements of § 23.1529.

(b) Adequate means must be provided to permit the close examination of the parachute and other system components to ensure proper functioning, alignment,

lubrication, and adjustment during the required inspection of the system.

#### 7. Operating Limitations

(a) Operating limitations must be prescribed to ensure proper operation of the system within its deployment envelope. A detailed discussion of the system, including operation, limitations and deployment envelope must be included in the Airplane Flight Manual.

(b) The deployment envelope of the GARD system must be possible at speeds up to  $V_0$  or higher.

(c) Operating limitations must be prescribed for inspecting, repacking, and replacing the parachute and deployment mechanism at approved intervals.

Issued in Kansas City, Missouri on September 30, 1997.

**Michael Gallagher,**

*Manager, Small Airplane Directorate Aircraft Certification Service.*

[FR Doc. 97-27504 Filed 10-15-97; 8:45 am]

BILLING CODE 4910-13-P

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 25

[Docket No. NM-135; Special Conditions No. 25-ANM-133]

#### **Special Conditions: Boeing, Model 767-27C Airplanes, Airborne Warning and Control System (AWACS) Modification; Liquid Oxygen System**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final special conditions.

**SUMMARY:** These special conditions are issued for Boeing Model 767-27C airplanes modified by installation of an Airborne Warning and Control System (AWACS). These airplanes will be equipped with an oxygen system utilizing liquid oxygen (LOX). The applicable regulations do not contain adequate or appropriate safety standards for the design and installation of oxygen systems utilizing LOX for storage. These standards are intended to ensure that the design and installation of the liquid oxygen system is such that a level of safety equivalent to that established by the airworthiness standards for transport category airplanes is provided.

**EFFECTIVE DATE:** November 17, 1997.

**FOR FURTHER INFORMATION CONTACT:** William Schroeder, FAA, Standardization Branch, ANM-113, Transport Airplane Directorate, Airplane Certification Service, 1601

Lind Avenue SW, Renton, Washington 98055-4056; telephone (425) 227-2148.

#### **SUPPLEMENTARY INFORMATION:**

##### **Background**

On May 25, 1993, Boeing Commercial Airplane Group—Wichita Division, applied for a supplemental type certificate (STC) to modify Boeing Model 767-27C airplanes to an Airborne Warning and Control System (AWACS) configuration. The AWACS modification includes installation of equipment consoles, seats for console operators, a liquid oxygen (LOX) system (liquid oxygen converter, valves, evaporating coils, lines, regulators, indicators, fittings, etc.), and a radome on the top of the airplane. Boeing will modify the aft lower lobe with hydraulics for the AWACS antenna drive unit, high-powered radio frequency units for the AWACS radar, and other AWACS hardware. Boeing has designed the LOX installation to provide a supply of breathing oxygen sufficient to allow operation of the airplane in the unpressurized mode if this becomes necessary. The FAA will approve the performance of the oxygen system during certification testing.

There are no specific regulations that address the design and installation of oxygen systems that utilize liquid oxygen. Existing requirements, such as §§ 25.1309, 25.1441 (b) & (c), 25.1451, and 25.1453 in the Boeing Model 767-27C original type certification basis, applicable to this modification, provide some design standards for crew and medical oxygen system installations. However, the FAA must specify additional design standards for systems utilizing liquid oxygen to ensure that an acceptable level of safety is maintained.

##### **Supplemental Type Certification Basis**

Under the provisions of §§ 21.101 (a) and (b), Boeing Commercial Airplane Group must show that the modified Model 767-27C continues to meet the applicable provisions of the regulations incorporated by reference in Type Certificate (TC) No. A1NM, or the applicable regulations in effect on the date of application for the change. The regulations incorporated by reference in the type certificate are commonly referred to as the "original type certification basis." The regulations incorporated by reference in TC A1NM are basically as follows: Part 25 of the FAR, as amended by Amendments 25-1 through 25-37, plus certain later amended sections as specified in Type Certificate Data Sheet A1NM. In addition, the certification basis includes certain special conditions, exemptions

and optional requirements that are not relevant to these special conditions. Also, the modified Model 767-27C must continue to comply with the fuel venting and exhaust emission requirements of part 34 (previously Special Federal Aviation Regulation 27), and the noise certification requirements of part 36 in effect on the date the STC is issued.

If the Administrator finds that the applicable airworthiness regulations (i.e., part 25, as amended and applicable) do not contain adequate or appropriate safety standards for the modified Model 767-27C because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions, as appropriate, are issued in accordance with § 11.49 of the FAR after public notice, as required by § 11.28 and § 11.29(b), and become part of the type certification basis in accordance with § 21.101(b)(2).

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply for a supplemental type certificate to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, the special conditions would apply to the other model under the provisions of § 21.101(a)(1).

##### **Discussion**

There are no specific regulations that address the design and installation of oxygen systems that utilize liquid oxygen for storage. Existing requirements, such as §§ 25.1309, 25.1441 (b) and (c), 25.1451, and 25.1453 of the Boeing 767-200 series certification basis applicable to this STC project, provide some design standards appropriate for oxygen system installations. However, additional design standards for oxygen systems utilizing liquid oxygen are needed to supplement the existing applicable requirements. The quantity of liquid oxygen involved in this installation and the potential for unsafe conditions that may result when the oxygen content of an enclosed area becomes too high because of system leaks, malfunction, or damage from external sources, make it necessary to assure adequate safety standards are applied to the design and installation of the system in Boeing Model 767-27C airplanes.

To ensure that a level of safety is achieved for modified Boeing Model 767-27C airplanes, utilizing liquid oxygen as a storage medium for an oxygen system, equivalent to that intended by the regulations incorporated by reference, special