(6) Be free from hazards in itself, in its method of operation, and in its effect upon other components.

(7) Have a means to allow the crew to readily determine, during flight, the quantity of oxygen available in each source of supply.

8. Airplane Performance

(a) In addition to the takeoff performance requirements of § 23.53(c), the same requirements must be met with both engines operating normally and the propeller primary control system failed in the most critical thrust producing condition at VEF and above, considering all single point failures.

(b) In addition to the one engine inoperative climb requirements of § 23.67(c), the same requirements must be met with both engines operating normally and the propeller primary control system failed in the most critical thrust producing condition, considering all single point failures.

(c) In addition to the requirements of § 23.69, the steady gradient and rate of climb/descent must be determined at each weight, altitude, and ambient temperature within the operational limits established by the applicant with both engines operating normally and the propeller primary control system failed in the most critical thrust producing condition, considering all single point failures.

(d) In addition to § 23.75, the horizontal distance necessary to land and come to a complete stop from a point 50 feet above the landing surface must be determined as required in § 23.75 with both engines operating normally and the propeller primary control system failed in the most critical thrust producing conditions, considering all single point failures.

(e) The balked landing requirements of § 23.77(c) must be performed with the propeller primary control system failed in the most critical thrust producing condition, considering all single point failures.

9. Airplane Flight Manual

(a) In addition to the requirements of §§ 23.1583(b) and 23.1585(a), a pre-flight visual inspection of the propeller components must be included in the Airplane Flight Manual.

(b) In addition to the requirements of § 23.1585(c), procedures for maintaining or recovering control of the airplane in all conditions identified in section 8 of these special conditions must be included in the Airplane Flight Manual.

(c) The information required by § 23.1583(c)(4) and § 23.1587(d) must be furnished with the propeller control system failed or with one engine inoperative, whichever is more critical.

10. Suction Defueling

(a) The airplane defueling system (not including fuel tanks and fuel tank vents) must withstand an ultimate load that is 2.0 times the load arising from maximum permissible defueling pressure (positive or negative) at the airplane fueling connection.

11. FADEC Installation

(a) The installation of the electronic engine/propeller control (FADEC control system) must comply with the requirements of § 23.1309 (a) through (e).

Issued in Kansas City, Missouri on September 24, 2001.

Michael Gallagher,

Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 01–25084 Filed 10–4–01; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 23

[Docket No. CE170, Special Condition 23–109–SC]

Special Conditions; Byerly Aviation; Twin Commander Models 690, 690A, 690B, 690C, 690D, 695, 695A, and 695B; Protection of Systems for High Intensity Radiated Fields (HIRF)

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued to Byerly Aviation, Inc., Greater Peoria Regional Airport, 6100 EM Dirksen Parkway, Peoria, Illinois 61607, for a Supplemental Type Certificate for Twin Commander model series 690/695 airplanes. This airplane will have novel and unusual design features when compared to the state of technology envisaged in the applicable airworthiness standards. These novel and unusual design features include the installation of an electronic flight instrument system (EFIS), manufactured by Meggitt Avionics, for which the applicable regulations do not contain adequate or appropriate airworthiness standards for the protection of these systems from the effects of high intensity radiated fields (HIRF). These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to the airworthiness standards applicable to these airplanes.

DATES: The effective date of these special conditions is September 17, 2001. Comments must be received on or before November 5, 2001.

ADDRESSES: Comments may be mailed in duplicate to: Federal Aviation Administration, Regional Counsel, ACE–7, Attention: Rules Docket Clerk, Docket No. CE170, Room 506, 901 Locust, Kansas City, Missouri 64106. All comments must be marked: Docket No. CE170. Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4:00 p.m.

FOR FURTHER INFORMATION CONTACT: Ervin Dvorak, Aerospace Engineer, Standards Office (ACE–110), Small Airplane Directorate, Aircraft Certification Service, Federal Aviation Administration, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone (816) 329–4123.

SUPPLEMENTARY INFORMATION: The FAA has determined that notice and opportunity for prior public comment hereon are impracticable because these procedures would significantly delay issuance of the approval design and thus delivery of the affected aircraft. In addition, the substance of these special conditions has been subject to the public comment process in several prior instances with no substantive comments received. The FAA, therefore, finds that good cause exists for making these special conditions effective upon issuance.

Comments Invited

Interested persons are invited to submit such written data, views, or arguments as they may desire. Communications should identify the regulatory docket or notice number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments will be considered by the Administrator. The special conditions may be changed in light of the comments received. All comments received will be available in the Rules Docket for examination by interested persons, both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerning this rulemaking will be filed in the docket. Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must include a self-addressed, stamped postcard on which the following statement is made: ''Comments to

Docket No. CE170.'' The postcard will be date stamped and returned to the commenter.

Background

On December 18, 2000, Byerly Aviation Inc., Greater Peoria Airport., 6100 Everitt M Dirksen Parkway, Peoria, Illinois 61607, made an application to the FAA for a new Supplemental Type Certificate for Twin Commander model series 690/695 airplanes. The Twin Commander model series 690/695 airplanes are currently approved under TC No. 2A4. The proposed modification incorporates a novel or unusual design feature, such as digital avionics consisting of an EFIS, that is vulnerable to HIRF external to the airplane.

Type Certification Basis

Under the provisions of 14 CFR part 21, § 21.101, Byerly Aviation, Inc. must show that their modification to Twin Commander model 690, 690A, 690B, 690C, 690D, 695, 695A, & 695B aircraft meets the applicable portions of the Certification Basis for each respective model as shown on Type Certificate data sheet Number 2A4, and § 23.1301 of Amendment 23–20; §§ 23.1309, 23.1311, and 23.1321 of Amendment 23–49; and § 23.1322 of Amendment 23–43; exemptions, if any; and the special conditions adopted by this rulemaking action.

Discussion

If the Administrator finds that the applicable airworthiness standards do not contain adequate or appropriate safety standards because of novel or unusual design features of an airplane, special conditions are prescribed under the provisions of § 21.16.

Special conditions are normally issued in accordance with § 11.38, and become a part of the type certification basis in accordance with § 21.101(d).

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 already included on the same type certificate to incorporate the same novel or unusual design feature, the special conditions would also apply to the other model under the provisions of § 21.101.

Novel or Unusual Design Features

Byerly Aviation Inc. plans to incorporate certain novel and unusual design features into an airplane for which the airworthiness standards do not contain adequate or appropriate safety standards for protection from the effects of HIRF. These features include EFIS, which are susceptible to the HIRF environment, that were not envisaged by the existing regulations for this type of airplane.

Protection of Systems from High Intensity Radiated Fields (HIRF): Recent advances in technology have given rise to the application in aircraft designs of advanced electrical and electronic systems that perform functions required for continued safe flight and landing. Due to the use of sensitive solid state advanced components in analog and digital electronics circuits, these advanced systems are readily responsive to the transient effects of induced electrical current and voltage caused by the HIRF. The HIRF can degrade electronic systems performance by damaging components or upsetting system functions.

Furthermore, the HIRF environment has undergone a transformation that was not foreseen when the current requirements were developed. Higher energy levels are radiated from transmitters that are used for radar, radio, and television. Also, the number of transmitters has increased significantly. There is also uncertainty concerning the effectiveness of airframe shielding for HIRF. Furthermore, coupling to cockpit-installed equipment through the cockpit window apertures is undefined.

The combined effect of the technological advances in airplane design and the changing environment has resulted in an increased level of vulnerability of electrical and electronic systems required for the continued safe flight and landing of the airplane. Effective measures against the effects of exposure to HIRF must be provided by the design and installation of these systems. The accepted maximum energy levels in which civilian airplane system installations must be capable of operating safely are based on surveys and analysis of existing radio frequency emitters. These special conditions require that the airplane be evaluated under these energy levels for the protection of the electronic system and its associated wiring harness. These external threat levels, which are lower than previous required values, are believed to represent the worst case to which an airplane would be exposed in the operating environment.

These special conditions require qualification of systems that perform critical functions, as installed in aircraft, to the defined HIRF environment in paragraph 1 or, as an option to a fixed value using laboratory tests, in paragraph 2, as follows:

(1) The applicant may demonstrate that the operation and operational capability of the installed electrical and electronic systems that perform critical functions are not adversely affected when the aircraft is exposed to the HIRF environment defined in the following table:

Frequency	Field strength (volts per meter)	
	Peak	Average
10 kHz—100 kHz	50	50
100 kHz—500 kHz	50	50
500 kHz—2 MHz	50	50
2 MHz—30 MHz	100	100
30 MHz—70 MHz	50	50
70 MHz—100 MHz	50	50
100 MHz—200 MHz	100	100
200 MHz—400 MHz	100	100
400 MHz—700 MHz	700	50
700 MHz—1 GHz	700	100
1 GHz—2 GHz	2000	200
2 GHz—4 GHz	3000	200
4 GHz—6 GHz	3000	200
6 GHz—8 GHz	1000	200
8 GHz—12 GHz	3000	300
12 GHz—18 GHz	2000	200
18 GHz—40 GHz	600	200

The field strengths are expressed in terms of peak root-mean-square (rms) values over the complete modulation period.

or,

(2) The applicant may demonstrate by a system test and analysis that the electrical and electronic systems that perform critical functions can withstand a minimum threat of 100 volts rms per meter, electrical field strength, from 10 kHz to 18 GHz. When using this test to show compliance with the HIRF requirements, no credit is given for signal attenuation due to installation.

A preliminary hazard analysis must be performed by the applicant, for approval by the FAA, to identify either electrical or electronic systems that perform critical functions. The term ''critical'' means those functions whose failure would contribute to, or cause, a failure condition that would prevent the continued safe flight and landing of the airplane. The systems identified by the hazard analysis that perform critical functions are candidates for the application of HIRF requirements. A system may perform both critical and non-critical functions. Primary electronic flight display systems, and their associated components, perform critical functions such as attitude, altitude, and airspeed indication. The HIRF requirements apply only to critical functions.

Compliance with HIRF requirements may be demonstrated by tests, analysis, models, similarity with existing systems, or any combination of these. Service experience alone is not acceptable since normal flight operations may not include an exposure to the HIRF environment. Reliance on a

system with similar design features for redundancy as a means of protection against the effects of external HIRF is generally insufficient since all elements of a redundant system are likely to be exposed to the fields concurrently.

Applicability

As discussed above, these special conditions are applicable to Twin Commander 690, 690A, 690B, 690C, 690D, 695, 695A, & 695B airplanes. Should Byerly Aviation, Inc. apply at a later date for a supplemental type certificate to modify any other model on the same type certificate to incorporate the same novel or unusual design feature, the special conditions would apply to that model as well under the provisions of § 21.101.

Conclusion

This action affects only certain novel or unusual design features on one model of airplane. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of these features on the airplane.

The substance of these special conditions has been subjected to the notice and comment period in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. For this reason, and because a delay would significantly affect the certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting these special conditions upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

List of Subjects in 14 CFR Part 23

Aircraft, Aviation safety, Signs and symbols.

Citation

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113 and 44701; 14 CFR part 21, §§ 21.16 and 21.101; and 14 CFR part 11, §§ 11.19.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Twin Commander model 690, 690A, 690B, 690C, 690D, 695, 695A, and 695B airplanes modified by Byerly Aviation, Inc. to add an EFIS.

1. Protection of Electrical and Electronic Systems from High Intensity Radiated Fields (HIRF). Each system that performs critical functions must be designed and installed to ensure that the operations, and operational capabilities of these systems to perform critical functions, are not adversely affected when the airplane is exposed to high intensity radiated electromagnetic fields external to the airplane.

2. For the purpose of these special conditions, the following definition applies:

Critical Functions: Functions whose failure would contribute to, or cause, a failure condition that would prevent the continued safe flight and landing of the airplane.

Issued in Kansas City, Missouri on September 17, 2001.

Michael Gallagher,

Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 01–25086 Filed 10–4–01; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 97

[Docket No. 30273; Amdt. No. 2073]

Standard Instrument Approach Procedures; Miscellaneous Amendments

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment establishes, amends, suspends, or revokes Standard Instrument Approach Procedures (SIAPs) for operations at certain airports. These regulatory actions are needed because of changes occurring in the National Airspace System, such as the commissioning of new navigational facilities, addition of new obstacles, or changes in air traffic requirements. These changes are designed to provide safe and efficient use of the navigable airspace and to promote safe flight operations under instrument flight rules at the affected airports.

DATES: An effective date for each SIAP is specified in the amendatory provisions.

Incorporation by reference-approved by the Director of the Federal Register on December 31, 1980, and reapproved as of January 1, 1982.

ADDRESSES: Availability of matter incorporated by reference in the amendment is as follows:

For Examination—

1. FAA Rules Docket, FAA Headquarters Building, 800 Independence Avenue, SW., Washington, DC 20591;

2. The FAA Regional Office of the region in which affected airport is located; or

3. The Flight Inspection Area Office which originated the SIAP.

For Purchase—Individual SIAP copies may be obtained from:

1. FAA Public Inquiry Center (APA–200), FAA Headquarters Building, 800 Independence Avenue, SW., Washington, DC 20591; or

2. The FAA Regional Office of the region in which the affected airport is located.

By Subscription—Copies of all SIAPs, mailed once every 2 weeks, are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

FOR FURTHER INFORMATION CONTACT: Donald P. Pate, Flight Procedure Standards Branch (AMCAFS–420), Flight Technologies and Programs Division, Flight Standards Service, Federal Aviation Administration, Mike Monroney Aeronautical Center, 6500 MacArthur Blvd., Oklahoma City, OK 73169 (Mail Address: P.O. Box 25082, Oklahoma City, OK 73125), telephone: (405) 954–4164.

SUPPLEMENTARY INFORMATION: This amendment to part 97 of the Federal Aviation Regulations (14 CFR part 97) establishes, amends, suspends, or revokes Standard Instrument Approach Procedures (SIAPs). The complete regulatory description on each SIAP is contained in the appropriate FAA Form 8260 and the National Flight Data Center (FDC)/Permanent (P) Notices to Airmen (NOTAM) which are incorporated by reference in the amendment under 5 U.S.C. 552(a), 1 CFR part 51, and § 97.20 of the Federal Aviation's Regulations (FAR). Materials incorporated by reference are available for examination or purchase as stated above.

The large number of SIAPs, their complex nature, and the need for a special format make their verbatim publication in the **Federal Register** expensive and impractical. Further, airmen do not use the regulatory text of the SIAPs, but refer to their graphic depiction of charts printed by publishers of aeronautical materials. Thus, the advantages of incorporation by reference are realized and publication of the complete description