- (2) Instability of a critical function,
- (3) Unwanted change in propeller pitch causing improper thrust/ overspeed, and
- (4) Unwanted action a critical control function resulting in propeller flat pitch or reverse.
- (b) Considering the electronic propeller and pitch controls introduce potential failures that can result in hazardous conditions, the following special conditions are proposed:
- (1) Each propeller and pitch control system which relies on electrical and electronic means for normal operation
- (i) Be designed and constructed so that any failure or malfunction of aircraft-supplied power or data will not result in an unacceptable change in propeller pitch setting or prevent continued safe operation of the propeller.
- (ii) Be designed and constructed so that no single failure or malfunction, or probable combination of failures of electrical or electronic components, or mechanical and hydraulic interface of the propeller control system, result in a hazardous condition.
- (iii) Be tested to its environmental limits including transients (variations) caused by lightning and high intensity radiated fields (HIRF) and demonstrate no adverse effects on the control system operation and performance or resultant damage. These tests shall include, but not be limited to, the following:
- (A) Lightning strikes, such as multiple-stroke and multiple-burst
- (B) Pin-injected tests to appropriate wave forms and levels
 - (C) HIRF susceptibility tests
- (iv) Be demonstrated by analysis/tests that associated software is designed and implemented to prevent errors that would result in an unacceptable change in propeller pitch or an hazardous condition.
- (v) Be designed and constructed so that a failure or malfunction of electrical or electronic components in the propeller control system could not prevent safe operation of any remaining propeller that is installed on the aircraft.

Issued in Burlington, Massachusetts, on January 12, 1995.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 95-1532 Filed 1-19-95; 8:45 am]

BILLING CODE 4910-13-M

14 CFR Part 35

[Docket No. 94-ANE-61: Notice No. 35-ANE-03]

Special Conditions: Hamilton Standard Model 568F Propeller

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed special conditions.

SUMMARY: This document proposes special conditions for the Hamilton Standard Model 568F propeller. This propeller is constructed using all composite blades, a novel and unusual design feature. Part 35 of the Federal Aviation Regulations (FAR's) currently does not address the airworthiness considerations associated with propellers constructed using all composite blades. This notice proposes additional safety standards which the Administrator finds necessary to establish a level of safety equivalent to that established by the airworthiness standards of part 35 of the FAR's.

DATES: Comments must be received on or before February 21, 1995.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 94-ANE-61, 12 New England Executive Park, Burlington, Massachusetts 01803-5299. Comments may be inspected at this location between 8:00 a.m. and 4:30 p.m., Monday through Friday, except . Federal holidays.

FOR FURTHER INFORMATION CONTACT: Martin Buckman, Engine and Propeller Standards Staff, ANE-110, Engine and Propeller Directorate, Aircraft Certification Service, FAA, New England Region, 12 New England Executive Park, Burlington,

Massachusetts 01803-5229; (617) 273-7079; fax (617) 270-2412.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rules by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under ADDRESSES. All communications received on or before the closing date for comments, specified under DATES, will be considered before taking action on the proposed special conditions. The proposals contained in this action may

be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposes special conditions. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 94-ANE-61." The postcard will be date stamped and returned to the commenter.

Availability of Notice of Special Condition

Any person may obtain a copy of this Notice of Special Condition by submitting a request to the FAA, New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 94-ANE-61, 12 New England Executive Park, Burlington, Massachusetts 01803-5299.

Discussion

Background

On January 26, 1994, Hamilton Standard applied for type certification for a new Model 568F propeller. This propeller is constructed using all composite blades, a novel and unusual design feature. Propellers constructed entirely of composite material have additional airworthiness considerations not currently addressed by part 35 of the FAR's. Those additional airworthiness considerations associated with propellers constructed using all composite blades are propeller integrity following a bird strike, propeller integrity following a lightning strike, and propeller fatigue strength when exposed to the deteriorating effects of in-service use and the environment.

Type Certificate Basis

Under the provisions of § 21.17 of the FAR's, Hamilton Standard must show that the Model 568F propeller meets the requirements of the applicable regulations in effect on the date of the application. Those FAR's are § 21.21 and part 35, effective February 1, 1965, as amended.

The Administrator finds that the applicable airworthiness regulations in part 35, as amended, do not contain