New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 94–ANE–60, 12 New England Executive Park, Burlington, Massachusetts, 01803–5299. Comments must be marked: Docket No. 94–ANE– 60. 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; telephone 238–7112; fax (617) 238–7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed special conditions 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 by the Administrator before taking action on the proposal. The proposal contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed special conditions. All comments submitted 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 proposal will be filed in the docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 94–ANE–60." 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–60, 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 uses a new electronic propeller and pitch control system in place of the primary governor control and synchrophaser unit.

The existing propeller pitch control is normally monitored by a governor which senses propeller speed and adjusts the pitch to absorb the engine power and therefore maintains the propeller at the correct RPM. When the primary governor fails, the propeller pitch is controlled by an overspeed governor.

This type of system is conventional and its airworthiness considerations are addressed by part 35 of the FAR's.

The FAA has determined that special conditions was necessary to install a Hamilton Standard electronic propeller and pitch control in place of the primary governor control and synchrophaser unit for the Model 568F propeller. This control is designed to operate a mechanical and hydraulic interface for the engine and propeller. It commands speed governing, synchrophasing and provides beta scheduling.

Electronic propeller and pitch controls introduce potential failures that can result in hazardous conditions. These types of failures are not addressed by the requirements of part 35. These failures can lead to the following possible hazardous conditions:

(1) Loss of control of the propeller,

(2) Instability of a critical function,

(3) Unwanted change in propeller pitch causing improper thrust/ overspeed, and

(4) Unwanted action of a critical control function resulting in propeller flat pitch or reverse.

Certification issues that must be addressed are possible loss of aircraftsupplied electrical power, aircraft supplied data, failure modes, environmental effects including lightning strikes and high intensity radiated magnetic fields (HIRF) and software design.

The FAA finds that under the provisions of section 21.16 of the FAR, additional safety standards must be applied to the Hamilton Standard electronic propeller control for Model 568F propellers to demonstrate that it is capable of acceptable operation.

Type Certification Basis

Under the provisions of section 21.17 of the FAR, 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 section 12.21 and part 35, effective February 1, 1995, as amended.

The Administrator finds that the applicable airworthiness regulations in part 35, as amended, do not contain adequate or appropriate safety standards for the Model 568F propeller. Therefore, the Administrator proposes special conditions under the provisions of section 21.16 to establish a level of safety equivalent to that established in the regulations.

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

Novel or Unusual Design Features

Because of the unusual design features of the Hamilton Standard 568F propeller with electronic propeller and pitch control, the FAA proposes special conditions under section 21.16 of the FAR.

Conclusion

This action affects only the Hamilton Standard Model 568F propeller with a new system of electronic propeller and pitch control. It is not a rule of general applicability and affects only the manufacturer who applied to the FAA for approval of these features on the propeller.

List of Subjects in 14 CFR part 35

Air transportation, Aircraft, Aviation safety, Safety.

The authority citation for these special conditions continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421, 1423; 49 U.S.C. 106(g); and 14 CFR 11.49 and 21.16.

The Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the following special conditions as part of the type certification basis for the Hamilton Standard 568F Model propeller with electronic propeller and pitch control system.

(a) For purposes of these special conditions, a hazardous condition is considered to exist for each of the following conditions:

(1) Loss of control of the propeller,