Aircraft make | Aircraft model | TCDS | Certification basis for alteration
---|---|---|---
### TABLE 1—APPROVED MODEL LIST—Continued

<table>
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<th>Aircraft make</th>
<th>Aircraft model</th>
<th>TCDS</th>
<th>Certification basis for alteration</th>
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If the Administrator finds that the applicable airworthiness regulations (i.e., 14 CFR part 23) do not contain adequate or appropriate safety standards for the Hawker Beechcraft Corporation, B200 and other aircraft listed on the AML, because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16. The FAA issues special conditions, as defined in § 11.19, under § 11.38 and they become part of the type certification basis under § 21.101.

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply for a supplemental type certificate AML to modify any other model to incorporate the same or similar novel or unusual design feature, the special conditions would also apply to the other model under § 21.101.

**Novel or Unusual Design Features**

The Hawker Beechcraft Corporation, B200 and other aircraft listed on the AML will incorporate the following novel or unusual design features:

AeroMech, Incorporated proposes to replace an existing L–3 Communications PS–835 lead-acid emergency battery with a Mid-Continent Instruments MD835 Li-ion battery on part 23 aircraft currently equipped with the PS–835 battery. This type of battery possesses certain failure, operational characteristics, and maintenance requirements that differ significantly from that of the Ni-Cd and lead-acid rechargeable batteries currently approved in other normal, utility, acrobatic, and commuter category airplanes.

**Discussion**

The applicable part 21 and part 23 airworthiness regulations governing the installation of batteries in general aviation airplanes, including § 23.1353, were derived from Civil Air Regulations (CAR 3) as part of the recodification that established 14 CFR part 23. The battery requirements, which were identified as § 23.1353, were basically a wording of the CAR requirements that did not add any substantive technical requirements. An increase in incidents involving battery fires and failures that accompanied the increased use of Ni-Cd batteries in airplanes resulted in rulemaking activities on the battery requirements for business jet and commuter category airplanes. These regulations were incorporated into § 23.1353(f) and (g), which apply only to Ni-Cd battery installations.

The proposed use of Li-ion batteries on the Hawker Beechcraft Corporation, B200 and other aircraft listed on the AML has prompted the FAA to review the adequacy of the existing battery regulations with respect to that chemistry. As the result of this review, the FAA has determined that the existing regulations do not adequately address several failure, operational, and maintenance characteristics of Li-ion batteries that could affect safety of the
battery installation and the reliability of the electrical power supply on the Hawker Beechcraft Corporation, B200 and other aircraft listed on the AML.

Li-ion batteries in general are significantly more susceptible to internal failures that can result in self-sustaining increases in temperature and pressure (i.e., thermal runaway) than their Ni-Cd and lead-acid counterparts. This is especially true for overcharging a Li-ion, which will likely result in explosion, fire, or both. Certain types of Li-ion batteries pose a potential safety problem because of the instability and flammability of the organic electrolyte employed by the cells of those batteries. The severity of thermal runaway increases with increasing battery capacity due to the higher amount of electrolyte in large batteries.

If the discharge of the cells is below a typical voltage of 3.0 volts on some versions of Li-ion batteries, they will subsequently no longer accept a charge. This loss of capacity may not be detected by simple voltage measurements commonly available to flight crews as a means of checking battery status, a problem shared with Ni-Cd batteries. Unlike Ni-Cd and lead-acid cells, some types of Li-ion cells employ electrolytes that are known to be flammable. This material can serve as a source of fuel for an external fire in the event of a breach of the cell container.

The intent of these special conditions is to establish appropriate airworthiness standards for Li-ion battery installations in the Hawker Beechcraft Corporation, B200 and other aircraft listed on the AML. Special conditions also ensure, as required by § 23.601, that these battery installations do not possess hazardous or unreliable design characteristics. These special conditions adopt the following requirements as a means of addressing these concerns:

1. Inclusion of special conditions listed in §§ 23.1353 (a) and (b) on the type certification basis for Hawker Beechcraft Corporation, B200 and other aircraft listed on the AML Special conditions also ensure, as required by § 23.601, that these battery installations do not possess hazardous or unreliable design characteristics.

2. A battery failure warning system with a means for detecting the occurrence of over-temperature warning system, and for preventing battery overheating or overcharging, or

3. A battery failure sensing and warning system with a means for automatically disconnecting the battery from its charging source in the event of an over-temperature condition, or

4. A battery failure sensing and warning system with a means for automatically disconnecting the battery from its charging source in the event of battery failure.

5. Any Li-ion battery installation whose function is required for safe operation of the airplane must incorporate a monitoring and warning feature that will provide an indication to the appropriate flight crewmembers whenever the capacity and state of charge (SOC) of the batteries have fallen below levels considered acceptable for dispatch of the airplane.

6. The Instructions for Continued Airworthiness (ICA) must contain recommended manufacturer’s maintenance and inspection requirements to ensure that batteries, including single cells, meet a safety function level essential to the aircraft’s continued airworthiness.

7. The ICA must contain operating instructions and equipment limitations in an installation maintenance manual. The ICA must contain installation procedures and limitations in a maintenance manual sufficient to ensure that cells or batteries, when installed according to the installation procedures, still meet safety functional levels essential to the aircraft’s
continued airworthiness. The limitations must identify any unique aspects of the installation.

(iii) The ICA must contain corrective maintenance procedures to functionally check battery capacity at manufacturer’s recommended inspection intervals.

(iv) The ICA must contain scheduled servicing information to replace batteries at manufacturer’s recommended replacement time.

(v) The ICA must contain maintenance and inspection requirements to visually check for a battery and/or charger degradation.

(10) Batteries in a rotating stock (spares) that have experienced degraded charge retention capability or other damage due to prolonged storage must be functionally checked at manufacturer’s recommended inspection intervals.

(11) If the Li-ion battery application contains software and/or complex hardware, in accordance with AC 20–115B and AC 20–152, they should be developed to the standards of DO–178B for software and DO–254 for complex hardware.

(12) The Li-ion battery must meet TSO C179.

These special conditions are not intended to replace § 23.1353 in the certification basis of the Hawker Beechcraft Corporation, B200 and other aircraft listed on the AML. These special conditions apply only to Li-ion batteries and battery installations. The battery requirements of § 23.1353 would remain in effect for batteries and battery installations on Hawker Beechcraft Corporation, B200 and other aircraft listed on the AML that do not use Li-ion batteries.

Issued in Kansas City, Missouri, on June 4, 2010.

Steven W. Thompson,
Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 2010–14195 Filed 6–11–10; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration

14 CFR Part 71


Proposed Amendment of Class E Airspace; Port Angeles, WA

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This action proposes to amend Class E airspace at William R. Fairchild International Airport, Port Angeles, WA. The Ediz Hook Nondirectional Radio Beacon (NDB) has been decommissioned and removed. The FAA is proposing this action for the safety and management of Instrument Flight Rules (IFR) operations at the airport.

DATES: Comments must be received on or before July 29, 2010.


FOR FURTHER INFORMATION CONTACT: Eldon Taylor, Federal Aviation Administration, Operations Support Group, Western Service Center, 1601 Lind Avenue, SW., Renton, WA 98057; telephone (425) 203–4537.

SUPPLEMENTARY INFORMATION:
Comments Invited

Interested parties are invited to participate in this proposed rulemaking by submitting such written data, views, or arguments, as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions on the proposal. Comments are specifically invited on the overall regulatory, aeronautical, economic, environmental, and energy-related aspects of the proposal.

Communications should identify both docket numbers (FAA Docket No. FAA 2010–0002 and Airspace Docket No. 09–ANM–32) and be submitted in triplicate to the Docket Management System (see “ADDRESSES” section for address and phone number). You may also submit comments through the Internet at http://www.regulations.gov.

Commenters wishing the FAA to acknowledge receipt of their comments on this action must submit with those comments a self-addressed stamped postcard on which the following statement is made: “Comments to FAA Docket No. FAA–2010–0002 and Airspace Docket No. 09–ANM–32”. The postcard will be date/time stamped and returned to the commenter.

All communications received on or before the specified closing date for comments will be considered before taking action on the proposed rule. The proposal contained in this action may be changed in light of comments received. All comments submitted will be available for examination in the public docket both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

Availability of NPRMs

An electronic copy of this document may be downloaded through the Internet at http://www.regulations.gov. Recently published rulemaking documents can also be accessed through the FAA’s web page at http://www.faa.gov/airports_airtraffic/air_traffic/publications/airspace_amendments/.

You may review the public docket containing the proposal, any comments received, and any final disposition in person in the Dockets Office (see “ADDRESSES” section for the address and phone number) between 9 a.m. and 5 p.m., Monday through Friday, except federal holidays. An informal docket may also be examined during normal business hours at the Northwest Mountain Regional Office of the Federal Aviation Administration, Air Traffic Organization, Western Service Center, Operations Support Group, 1601 Lind Avenue, SW., Renton, WA 98057.

Persons interested in being placed on a mailing list for future NPRMs should contact the FAA’s Office of Rulemaking, (202) 267–9677, for a copy of Advisory Circular No. 11–2A, Notice of Proposed Rulemaking Distribution System, which describes the application procedure.

The Proposal

The FAA is proposing an amendment to Title 14 Code of Federal Regulations (14 CFR) part 71 by amending Class E surface airspace, and Class E airspace extending upward from 700 feet above the surface, at William R. Fairchild International Airport, Port Angeles, WA. This action is necessary because the Ediz Hook NDB was decommissioned and is no longer operational. This action would enhance the safety and management of IFR operations at the airport.

Class E airspace designations are published in paragraph 6002 and 6005, respectively, of FAA Order 7400.9T, signed August 27, 2009, and effective September 15, 2009, which is incorporated by reference in 14 CFR 71.1. The Class E airspace designation listed in this document will be published subsequently in this Order.