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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA-2022-1284; Special Conditions No. 25-834-SC]

Special Conditions: Aerospace Quality Research and Development, Textron Aviation Inc. Model 680A Latitude Airplane; Rechargeable Lithium Batteries and Battery Systems Installations

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Textron Aviation Inc. (Textron) Model 680A Latitude airplane, as modified by Aerospace Quality Research and Development (AQRD). These airplanes will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport-category airplanes. This design feature is the installation of two rechargeable lithium batteries and battery system that will replace two nickel-cadmium batteries previously installed on the airplane. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: This action is effective on AQRD on October 6, 2022. Send comments on or before November 21, 2022.

ADDRESSES: Send comments identified by Docket No. FAA-2022-1284 using any of the following methods:

- *Federal eRegulations Portal:* Go to <https://www.regulations.gov/> and follow

the online instructions for sending your comments electronically.

- *Mail:* Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE, Room W12-140, West Building Ground Floor, Washington, DC 20590-0001.

- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- *Fax:* Fax comments to Docket Operations at 202-493-2251.

Privacy: Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in title 14, Code of Federal Regulations (14 CFR), § 11.35, the FAA will post all comments received without change to <https://www.regulations.gov/>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about these special conditions.

Confidential Business Information: Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to these special conditions contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to these special conditions, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and the indicated comments will not be placed in the public docket of these special conditions. Send submissions containing CBI to Nazih Khaouly, Aircraft Systems, AIR-623, Technical Innovation Policy Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington 98198; telephone and fax 206-231-3160; email nazih.khaouly@faa.gov. Comments the

FAA receives, which are not specifically designated as CBI, will be placed in the public docket for these special conditions.

Docket: Background documents or comments received may be read at <https://www.regulations.gov/> at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Nazih Khaouly, Aircraft Systems, AIR-623, Technical Innovation Policy Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington 98198; telephone and fax 206-231-3160; email nazih.khaouly@faa.gov.

SUPPLEMENTARY INFORMATION: The substance of these special conditions has been published in the **Federal Register** for public comment in several prior instances with no substantive comments received. Therefore, the FAA finds, pursuant to § 11.38(b), that new comments are unlikely, and notice and comment prior to this publication are unnecessary.

Comments Invited

The FAA invites interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

The FAA will consider all comments received by the closing date for comments. The FAA may change these special conditions based on the comments received.

Background

On April 26, 2022, AQRD applied for a supplemental type certificate to remove two existing nickel-cadmium (NiCad) batteries on Textron Model 680A Latitude airplanes and replace the NiCad batteries with two Mid-Continent rechargeable lithium batteries and battery system. The Textron Model 680A Latitude airplane, approved under Type Certificate No. T00012WI, is a twin-engine transport category airplane with a maximum seating capacity of 11

(2 crew plus 9 passenger seats) and has a maximum takeoff weight of 30,800 pounds.

Type Certification Basis

Under the provisions of title 14, Code of Federal Regulations (14 CFR), § 21.101, AQRD must show that the Textron Model 680A Latitude airplane, as changed, continues to meet the applicable provisions of the regulations listed in Type Certificate No. T00012WI or the applicable regulations in effect on the date of application for the change, except for earlier amendments as agreed upon by the FAA.

If the Administrator finds that the applicable airworthiness regulations (e.g., 14 CFR part 25) do not contain adequate or appropriate safety standards for the Textron Model 680A Latitude airplane because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

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, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Textron Model 680A Latitude airplane must comply with the fuel-vent and exhaust-emission requirements of 14 CFR part 34, and the noise-certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.101.

Novel or Unusual Design Features

The Textron Model 680A Latitude airplane, as modified by AQRD, will incorporate the following novel or unusual design feature: installation of two rechargeable lithium batteries and battery system to replace two nickel-cadmium batteries previously installed on the airplane.

Discussion

Rechargeable lithium batteries and battery systems are considered to be a novel or unusual design feature in transport category airplanes, with respect to the requirements in 14 CFR 25.1353. This type of battery has certain failure, operational, and maintenance characteristics that differ significantly from those of the nickel-cadmium and lead-acid rechargeable batteries

currently approved for installation on transport category airplanes. These batteries introduce higher energy levels into airplane systems through new chemical compositions in various battery-cell sizes and construction. Interconnection of these cells in battery packs introduces failure modes that require unique design considerations, such as provisions for thermal management.

Special Condition 1 requires that each individual cell within a rechargeable lithium battery be designed to maintain safe temperatures and pressures. Special Condition 2 addresses these same issues but for the entire battery system.

Special Condition 2 requires the batteries and battery system be designed to prevent propagation of a thermal event, such as self-sustained, uncontrolled increases in temperature or pressure from one cell to adjacent cells.

Special Conditions 1 and 2 are intended to ensure that the cells and battery system are designed to eliminate the potential for uncontrollable failures. However, a certain number of failures will occur due to various factors beyond the control of the designer. Therefore, other special conditions are intended to protect the airplane and its occupants if failure occurs.

Special Conditions 3, 7, and 8 are self-explanatory.

Special Condition 4 clarifies that the flammable fluid fire-protection requirements of § 25.863 apply to rechargeable lithium battery installations. Section 25.863 is applicable to areas of the airplane that could be exposed to flammable fluid leakage from airplane systems. Rechargeable lithium batteries contain electrolyte that is a flammable fluid.

Special condition 5 requires each rechargeable lithium battery and battery system installation to not damage surrounding structure or adjacent systems, equipment, or electrical wiring from corrosive fluids or gases that may escape in such a way as to cause a major or more severe failure condition.

Special Condition 6 requires each rechargeable lithium battery and battery system installation to have provisions to prevent any hazardous effect on airplane structure or systems caused by the maximum amount of heat it can generate due to any failure of it or its individual cells. The means of meeting Special Conditions 5 and 6 may be the same, but they are independent requirements addressing different hazards. Special Condition 5 addresses corrosive fluids and gases, whereas Special Condition 6 addresses heat.

Special Condition 9 requires rechargeable lithium batteries and battery systems to have “automatic” means due to the fast acting nature of lithium battery chemical reactions. Manual intervention would not be timely or effective in mitigating the hazards associated with these batteries.

These special conditions apply to all rechargeable lithium batteries and battery system installations in lieu of § 25.1353(b)(1) through (4) at amendment 25–123, or § 25.1353(c)(1) through (4) at earlier amendments. Those regulations will remain in effect for other battery installations on these airplanes.

These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

Applicability

As discussed above, these special conditions are applicable to the Textron Model 680A Latitude airplane. Should AQRD apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. T00012WI to incorporate the same novel or unusual design feature, these special conditions would apply to that model as well.

Conclusion

This action affects only a certain novel or unusual design feature 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 this feature on the airplane.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

Authority Citation

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702, 44704.

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 Textron Model 680A Latitude airplanes, as modified by AQRD.

Rechargeable Lithium Battery and Battery System Installations

In lieu of § 25.1353(b)(1) through (4) at amendment 25–123, or § 25.1353(c)(1) through (4) at earlier amendments, each

rechargeable lithium battery and battery system installation must:

1. Be designed to maintain safe cell temperatures and pressures under all foreseeable operating conditions to prevent fire and explosion.
2. Be designed to prevent the occurrence of self-sustaining, uncontrollable increases in temperature or pressure, and automatically control the charge rate of each cell to protect against adverse operating conditions, such as cell imbalance, back charging, overcharging, and overheating.
3. Not emit explosive or toxic gases, either in normal operation or as a result of its failure, that may accumulate in hazardous quantities within the airplane.
4. Meet the requirements of § 25.863.
5. Not damage surrounding structure or adjacent systems, equipment, or electrical wiring from corrosive fluids or gases that may escape in such a way as to cause a major or more-severe failure condition.
6. Have provisions to prevent any hazardous effect on airplane structure or systems caused by the maximum amount of heat it can generate due to any failure of it or its individual cells.
7. Have a failure sensing and warning system to alert the flightcrew if its failure affects safe operation of the airplane.
8. Have a monitoring and warning feature that alerts the flightcrew when its charge state falls below acceptable levels if its function is required for safe operation of the airplane.
9. Have a means to automatically disconnect from its charging source in the event of an over-temperature condition, cell failure, or battery failure.

Note: A battery system consists of the battery, battery charger and any protective, monitoring and alerting circuitry or hardware inside or outside of the battery. It also includes vents (where necessary) and packaging. For the purpose of these special conditions, a battery and battery system are referred to as a battery.

Issued in Kansas City, Missouri, on September 30, 2022.

Patrick R. Mullen,

Manager, Technical Innovation Policy Branch, Policy and Innovation Division, Aircraft Certification Service.

[FR Doc. 2022-21663 Filed 10-5-22; 8:45 am]

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R04-OAR-2021-0867; FRL-9377-02-R4]

Air Plan Approval; North Carolina; Prevention of Significant Deterioration for Mecklenburg County

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is approving a portion of a State Implementation Plan (SIP) revision to the Mecklenburg County portion of the North Carolina SIP, hereinafter referred to as the Mecklenburg County Local Implementation Plan (LIP). The revision was submitted through the North Carolina Division of Air Quality (NCDAQ), on behalf of Mecklenburg County Air Quality (MCAQ), via a letter dated April 24, 2020, which was received by EPA on June 19, 2020. This SIP revision includes changes to Mecklenburg County Air Pollution Control Ordinance (MCAPCO) rules incorporated into the LIP regarding Prevention of Significant Deterioration (PSD) permitting to address changes to the Federal new source review (NSR) regulations in recent years. EPA is approving these changes pursuant to the Clean Air Act (CAA or Act).

DATES: This rule is effective November 7, 2022.

ADDRESSES: EPA has established a docket for this action under Docket Identification No. EPA-R04-OAR-2021-0867. All documents in the docket are listed on the www.regulations.gov website. Although listed in the index, some information may not be publicly available, *i.e.*, Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through www.regulations.gov or in hard copy at the Air Regulatory Management Section, Air Planning and Implementation Branch, Air and Radiation Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street SW, Atlanta, Georgia 30303-8960. EPA requests that if at all possible, you contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section to schedule your inspection. The Regional Office's official hours of business are Monday

through Friday 8:30 a.m. to 4:30 p.m., excluding Federal holidays.

FOR FURTHER INFORMATION CONTACT: D. Brad Akers, Air Regulatory Management Section, Air Planning and Implementation Branch, Air and Radiation Division, Region 4, U.S. Environmental Protection Agency, 61 Forsyth Street SW, Atlanta, Georgia 30303-8960. Mr. Akers can be reached via electronic mail at akers.brad@epa.gov or via telephone at (404) 562-9089.

SUPPLEMENTARY INFORMATION:

I. Background and Overview of Mecklenburg LIP

The Mecklenburg LIP was submitted to EPA on June 14, 1990, and EPA approved the plan on May 2, 1991. *See* 56 FR 20140. EPA is now approving changes to the LIP for, among other things, general consistency with the North Carolina SIP.¹ Mecklenburg County prepared three submittals in order to update the LIP and reflect regulatory and administrative changes that NCDAQ made to the North Carolina SIP since EPA's 1991 LIP approval.² The three submittals were submitted as follows: NCDAQ transmitted the October 25, 2017, submittal to EPA but later withdrew it from review through a letter dated February 15, 2019. On April 24, 2020, NCDAQ resubmitted the October 25, 2017, update to EPA and submitted the January 21, 2016, and January 14, 2019, updates. Each of these submittals were properly noticed to the public in compliance with 40 CFR 51.102.

This final rule modifies the LIP by updating the PSD program rules incorporated into the LIP in Rule 2.0530, *Prevention of Significant Deterioration*, and by adding into the LIP Rule 2.0544, *Prevention of Significant Deterioration Requirements for Greenhouse Gases*.

II. Updates to the Mecklenburg PSD Program

MCAQ adopts the Federal PSD provisions of 40 CFR 51.166 with several changes, consistent with the State of North Carolina's PSD rules.³

¹ Hereinafter, the terms "North Carolina SIP" and "SIP" refer to the North Carolina regulatory portion of the North Carolina SIP (*i.e.*, the portion that contains SIP-approved North Carolina regulations).

² The Mecklenburg County, North Carolina revision that is dated April 24, 2020, and received by EPA on June 19, 2020, is comprised of three previous submittals—one dated January 21, 2016; one dated October 25, 2017; and one dated January 14, 2019.

³ *See, e.g.*, 76 FR 49313 (August 10, 2011); 76 FR 64240 (October 18, 2011); 81 FR 63107 (September 14, 2016); 83 FR 45827 (September 11, 2018); 84 FR

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