

# Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 23

[Docket No. CE291; Notice No. 23-08-05-SC]

#### Special Conditions: Spectrum Aeronautical, LLC Model 40; Lithium Polymer Battery Installation

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed special conditions.

**SUMMARY:** This action proposes special conditions for the Spectrum Aeronautical, LLC Model 40 (S-40) airplane. This airplane will have a novel or unusual design feature associated with the installation of lithium polymer (Li-Poly) batteries for emergency, main, and auxiliary power unit (APU) applications. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These proposed 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:** We must receive your comments by January 2, 2009.

**ADDRESSES:** You must mail two copies of your comments to Federal Aviation Administration, Regional Counsel, ACE-7, *Attention:* Rules Docket Clerk, Docket No. CE291, Room 506, 901 Locust, Kansas City, Missouri 64106. You may deliver two copies to the Small Airplane Directorate at the above address. You must mark your comments: Docket No. CE291. You may inspect comments in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.

**FOR FURTHER INFORMATION CONTACT:** Jim Brady, Aerospace Engineer, Standards Office (ACE-111), Small Airplane Directorate, Aircraft Certification

Service, Federal Aviation Administration, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone (816) 329-4132.

#### SUPPLEMENTARY INFORMATION:

##### Comments Invited

We invite 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. We ask that you send us two copies of written comments.

We will file in the docket all comments we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning these special conditions. You may inspect the docket before and after the comment closing date. If you wish to review the docket in person, go to the address in the **ADDRESSES** section of this preamble between 7:30 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

We will consider all comments we receive on or before the closing date for comments. We will consider comments filed late if it is possible to do so without incurring expense or delay. We may change these special conditions based on the comments we receive.

If you want the FAA to acknowledge receipt of your comments on this proposal, include with your comments a pre-addressed, stamped postcard on which the docket number appears. We will stamp the date on the postcard and mail it back to you.

##### Background

On November 21, 2007, Spectrum Aeronautical, LLC applied for a type certificate for their new model 40 airplane. The model 40 (S-40) airplane, is a 2+9 (pilots + passengers) conventionally configured low wing normal category twin-engine jet airplane manufactured primarily from advanced carbon fiber composite materials. The model S-40 is designed to be certified for a single pilot operation for day, night, VFR, IFR and flight into known icing operations at altitudes up to 45,000 feet. The company will show compliance with Reduced Vertical Separation Minimums (RVSM) requirements. Spectrum proposes to utilize lithium polymer (Li-Poly)

batteries for emergency, main, and auxiliary power unit (APU) on the model S-40 airplane.

#### Type Certification Basis

Under the provisions of 14 CFR part 21, § 21.17, Spectrum Aeronautical, LLC must show that the model S-40 meets the applicable provisions of part 23, as amended by Amendments 23-1 through 23-57 thereto.

In addition, the certification basis includes certain special conditions, and exemptions that are not relevant to these proposed special conditions.

In addition to the applicable airworthiness regulations and special conditions, the S-40 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 and the FAA must issue a finding of regulatory adequacy under § 611 of Public Law 92-574, the "Noise Control Act of 1972."

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 model S-40 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 § 21.17(a)(2).

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates 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 Spectrum S-40 will incorporate the following novel or unusual design features: Spectrum proposes to utilize lithium polymer (Li-Poly) batteries for emergency, main, and auxiliary power unit (APU) on the Spectrum S-40 airplane model. This type of battery possesses certain failure and operational characteristics, and maintenance requirements that differ significantly from that of the nickel cadmium (Ni-Cd) and lead acid rechargeable batteries currently approved for installation in small airplanes. Current regulations in 14 CFR part 23 do not address

installation of Li-Poly batteries. This special condition is being proposed to require that all characteristics of the Li-Poly battery and its installation that could affect safe operation of the Spectrum S-40 airplane are addressed, along with establishing that appropriate maintenance requirements must be provided to ensure electrical power is available from the batteries when needed.

### Discussion

The applicable part 21 and part 23 airworthiness regulations governing the installation of batteries in general aviation airplanes, including part 23, § 23.1353 were derived from Civil Air Regulations (CAR 3) as part of the recodification that established Federal Aviation Regulation 14 CFR part 23. The battery requirements, which were identified as 14 CFR part 23, § 23.1353, were basically a rewording 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 Nickel-Cadmium (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 14 CFR part 23, § 23.1353(f) and (g), which apply only to Ni-Cd battery installations.

The proposed use of Li-Poly batteries on the Spectrum model S-40 airplane 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-Poly batteries that could affect safety of the battery installation and the reliability of the Spectrum model S-40 airplane electrical power supply.

Li-Poly 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-Poly, which will likely result in explosion, fire, or both. Certain types of Li-Poly 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.

Discharge of some versions of the Li-Poly cell beyond a certain voltage below 3.0 volts will subsequently no longer accept a charge. This loss of capacity may not be detected by the 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-Poly 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 the proposed special condition is to establish appropriate airworthiness standards for Li-Poly battery installations in the Spectrum model 40 airplane, and to ensure, as required by 14 CFR part 23, § 23.601, that these battery installations do not possess hazardous or unreliable design characteristics. The proposed special condition adopts the following requirements as a means of addressing these concerns:

- Inclusion of those sections of 14 CFR part 23, § 23.1353 that are applicable to Li-Poly batteries.
  - Inclusion of the flammable fluid fire protection requirements of 14 CFR part 23, § 23.863. In the past, this rule was not applied to the batteries of business jet or commuter category airplanes since the electrolytes utilized in lead-acid and Ni-Cd batteries are not considered to be flammable.
  - Addition of new requirements to address the potential hazards of overcharging and overdischarging that are unique to Li-Poly battery designs.
- Addition of maintenance requirements to ensure that batteries used as spares are maintained in an appropriate state of charge (SOC).

### Applicability

As discussed above, these special conditions are applicable to the Spectrum model S-40. Should Spectrum Aeronautical, LLC apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, the special conditions would apply to that model as well.

### Conclusion

This action affects only certain novel or unusual design features on one model of airplane. It is not a rule of general applicability.

### List of Subjects in 14 CFR Part 23

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

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

### The Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the following special conditions as part of the type certification basis for Spectrum Aeronautical, LLC model S-40 airplanes.

### Spectrum Aeronautical, LLC Model 40 Lithium Polymer Battery Installation

In lieu of the requirements of 14 CFR part 23, § 23.1353 (a) through (e), lithium polymer batteries and battery installations on the Spectrum S-40 airplane must be designed and installed as follows:

(1) Safe cell temperatures and pressures must be maintained during any probable charging or discharging condition, or during any failure of the charging or battery monitoring system not shown to be extremely remote. The Li-Poly battery installation must be designed to preclude explosion or fire in the event of those failures.

(2) Li-Poly batteries must be designed to preclude the occurrence of self-sustaining, uncontrolled increases in temperature or pressure.

(3) No explosive or toxic gasses emitted by any Li-Poly battery in normal operation or as the result of any failure of the battery charging or monitoring system, or battery installation not shown to be extremely remote, may accumulate in hazardous quantities within the airplane.

(4) Li-Poly batteries that contain flammable fluids must comply with the flammable fluid fire protection requirements of 14 CFR part 23, § 23.863(a) through (d).

(5) No corrosive fluids or gasses that may escape from any Li-Poly battery may damage surrounding airplane structure or adjacent essential equipment.

(6) Each Li-Poly battery installation must have provisions to prevent any hazardous effect on structure or essential systems that may be caused by the maximum amount of heat the battery can generate during a short circuit of the battery or of its individual cells.

(7) Li-Poly battery installations must have a system to control the charging rate of the battery automatically, so as to prevent battery overheating or overcharging, and

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

(ii) 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.

(8) Any Li-Poly 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 SOC of the batteries have fallen below levels considered acceptable for dispatch of the airplane.

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

(i) The ICAW must contain operating instructions and equipment limitations in an installation maintenance manual.

(ii) The ICAW must contain installation procedures and limitation 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 limitation must identify any unique aspects of the installation.

(iii) The ICAW must contain corrective maintenance procedures to functionally check battery capacity at manufacturers' recommended inspection intervals.

(iv) The ICAW must contain scheduled servicing information to replace batteries at manufacturers' recommended replacement time.

(v) The ICAW must contain maintenance 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 manufacturers' recommended inspection intervals.

(11) System Safety Assessment process should address the software and complex hardware levels for the sensing, monitoring and warning systems, if these systems contain complex devices. The functional hazard assessment (FHA) for the system is required based on the intended functions described. The criticality of the specific functions will be determined by the safety assessment process for compliance with 14 CFR part 23, § 23.1309, and Advisory

Circular 23.1309–1C contains acceptable means for accomplishing this requirement. For determining the failure condition, the criticality of a function will include the mitigating factors. The failure conditions must address the loss of function and improper operations.

It should be noted that these special conditions are not intended to replace 14 CFR part 23, § 23.1353 in the certification basis of the Spectrum model S–40 airplanes. The proposed special conditions would apply only to Li-Poly batteries and battery installations. The battery requirements of 14 CFR part 23, § 23.1353 would remain in effect for batteries and battery installations on the Spectrum airplane that do not utilize Li-Poly chemistry.

Issued in Kansas City, Missouri on November 20, 2008.

**John Colomu,**

*Acting Manager, Small Airplane Directorate, Aircraft Certification Service.*

[FR Doc. E8–28491 Filed 12–1–08; 8:45 am]

**BILLING CODE 4910–13–P**

## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

#### 26 CFR Part 1

[REG–156779–06]

**RIN 1545–BG27**

#### Determining the Amount of Taxes Paid for Purposes of Section 901; Hearing Cancellation

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Cancellation of notice of public hearing on proposed rulemaking by cross-reference to temporary regulations.

**SUMMARY:** This document cancels a public hearing on proposed rulemaking by cross-reference to temporary regulations that provide guidance relating to the determination of the purposes of the foreign tax credits. The text of those temporary regulations also serves as the text of these proposed regulations.

**DATES:** The public hearing, originally scheduled for December 11, 2008 at 10 a.m. is cancelled.

**FOR FURTHER INFORMATION CONTACT:** Regina Johnson of the Publications and Regulations Branch, Legal Processing Division, Associate Chief Counsel (Procedure and Administration) at (202) 622–7180 (not a toll-free number).

**SUPPLEMENTARY INFORMATION:** A notice of proposed rulemaking by cross-

reference to temporary regulations and a notice of public hearing that appeared in the **Federal Register** on Wednesday, July 16, 2008 (73 FR 40792) announced that a public hearing was scheduled for December 11, 2008, at 10 a.m. in the IRS Auditorium, Internal Revenue Building, 1111 Constitution Avenue, NW., Washington, DC. The subject of the public hearing is under section 901 of the Internal Revenue Code.

The public comment period for these regulations expired on October 14, 2008. Outlines of topics to be discussed at the hearing were due on November 20, 2008. The notice of proposed rulemaking by cross-reference to temporary regulations and notice of public hearing instructed those interested in testifying at the public hearing to submit a request to speak, and an outline of the topics to be addressed. As of Friday, November 25, 2008, no one has requested to speak. Therefore, the public hearing scheduled for December 11, 2008, is cancelled.

**Guy Traynor,**

*Federal Register Liaison, Publications and Regulations Branch, Legal Processing Division, Associate Chief Counsel (Procedure and Administration).*

[FR Doc. E8–28522 Filed 12–1–08; 8:45 am]

**BILLING CODE 4830–01–P**

## DEPARTMENT OF LABOR

### Occupational Safety and Health Administration

#### 29 CFR Part 1926

[Docket ID–OSHA–2007–0066]

**RIN 1218–AC01**

#### Cranes and Derricks in Construction

**AGENCY:** Occupational Safety and Health Administration (OSHA), Labor.

**ACTION:** Notice of Proposed Rulemaking; extension of written comment period.

**SUMMARY:** On October 9, 2008, OSHA published a Notice of Proposed Rulemaking (NPRM) titled “Cranes and Derricks in Construction.” The period for submitting written comments is being extended 45 days to allow parties affected by the rule more time to review the proposed rule and collect information and data necessary for comments.

**DATES:** Comments must be submitted (postmarked or sent) by January 22, 2009.

**ADDRESSES:** You may submit written comments, identified by Docket No.