Summary of the Twentieth Meeting

Special Committee 225

Rechargeable Lithium Batteries & Battery Systems

The Twentieth Plenary Meeting of Special Committee 225 (SC-225) was held on November 3, 2015. This meeting was held virtually via WebEx and audio line. The attendees included:

Richard P Nguyen (Chairman) The Boeing Company
Stephen Diehl (Secretary) The Boeing Company
Norman Pereira (Designated Federal Official) Federal Aviation Administration
Jennifer Iversen (Program Director) RTCA, Inc.

Chris Baker ACME Aerospace
Mehdy Barekatein The Boeing Company
Michael Boost Securaplane Technologies
Michael Brady Saft America, Inc.
Vernon Chang Cessna Aircraft Company
Dan Croft Garmin
Fabricio de Oliveira Spigolon UTC Aerospace Systems
Jeff Densmore Radiant Power Corp
Mark Fry The Boeing Company
David Ginder Saft America, Inc.
Alex Haynes DME Corporation, Astronics
Lewis Hom Zee.Aero
Nazih Khaouly Federal Aviation Administration
Dinkar Mokadam Association of Flight Attendants-CWA
Trung Nguyen EIC Laboratories
Jack Pfeifer FedEx
Paul Pfeifer Cessna Aircraft Company
Leo Saldaña Day-Ray Products, Inc.
Fabrice Sarrey Zodiac Aerospace
Mark Schwallier L-3 Avionics Systems
Harmohan Singh Honeywell
Steven Summer FAA Technical Center
Vincent Teuliere Airbus
John Trela The Boeing Company
David Vutetakis Concorde Battery Corporation
Margot Wasz The Aerospace Corporation
Brett Williams Mid-Continent Instruments and Avionics
In accordance with the Federal Aviation Advisory Committee Act, Norm Pereira, Federal Aviation Administration, was the Designated Federal Official for this meeting.

RTCA SC-225 Rechargeable Lithium Batteries: November 3, 2015

- The twentieth Plenary meeting of SC-225 was convened at 9:00 a.m. EST by Chair Richard Nguyen (Boeing). Stephen Diehl (Boeing) was the SC-225 Recording Secretary.

- The Public Meeting Announcement was read by Norman Pereira, the Designated Federal Official.

- The RTCA Proprietary References Policy was read by Jennifer Iverson, the Program Director.

- Each person in attendance was invited to introduce themselves.

- The meeting agenda was reviewed and approved.

- The meeting summary for the previous Plenary was reviewed and approved.

- The reasons for the PMC rejecting DO-311A were reviewed. They can be summarized as:
  1. It did not follow the MOPS template structure. The proposed DO-311A had requirements in section 1. The MOPS template structure puts general requirements in 2.1, specific requirements in 2.2, environmental requirements in 2.3 and test procedures in 2.4.
  2. There were no battery categories. Battery categories allow differentiation of requirements and tests.
  3. The requirements were too vague. The PMC wanted more specific, detailed requirements that would aid in creating a design for both an AC and a TSO. Also, the requirements were not well related to the tests or the relationship easily understood.
  4. Containment and venting were not clear.

- A recovery plan of plenary meetings and working groups was proposed and accepted. The plan shows completion of a reformatted and updated DO-311A in time for the September 2016 PMC meeting. This end date is dependent on how quickly the committee can re-write the document as well as how many FRAC comments are received (estimate of 250 comments).
• Reviewed the PMC Ad Hoc Committee Guidance. This guidance gives further details of the reasons for rejection cited above.

• Reviewed the response that the SC-225 Way Forward committee made to the PMC at the PMC meeting held in September 2015. The response can be summarized as:

  1. The MOPS Template (drafting guide) had been received and no problems are anticipated.

  2. The DO-311A will be reformatted with general requirements in section 2.1, equipment performance requirements in 2.2, environmental requirements in 2.3 and equipment test procedures in 2.4.

  3. Suitable categories will be defined and the committee will seek concurrence from the PMC Ad Hoc committee once suitable categories are defined.

  4. The committee believes that categories that are chosen should result in a difference of:
     • General Requirements (Section 2.1)
     • Equipment Performance Requirements (Section 2.2)
     • Test Procedures OR Evaluation Criteria (Section 2.4)

  5. The committee notes that detailed performance specifications are appropriate for this MOPS document. However, detailed design specifications are not appropriate for this MOPS document due to wide variation of battery design, cell chemistry and cell configurations.

  6. The committee will continue to work with PMC Ad Hoc committee to define the appropriate requirements.

The Plenary was adjourned and a single Working Group was convened to discuss the text of the draft DO-311A document.

Plenary Reconvened at 1:45 p.m. EDT

• A preliminary agenda was established for the next Plenary.

• Due to lack of available conference rooms at RTCA headquarters, the next plenary (December 8 – 10, 2015) will be held at NBAA Headquarters, located at 1200 G St. NW Washington, DC.

• Working Group Report

Working Group Report
Plenary 20
November 3, 2015
Aside from some editorial and non-consequential changes, the WG made the following changes to the reformatted DO-311A document:

1.1.2 Battery and Battery System Size
   Added a sentence about using actual capacity instead of rated capacity.

Table 1-2 Required Functions by Category
   The “X’s” were removed from the table. The “X’s” were notional and this table will be updated later with the correct designation.

The WG also updated the matrix called “Required Tests by Battery Category”. The column for Category 5 was removed and the “X’s” for each test/category combination were reviewed and updated. There was not sufficient time to complete the review and update. This matrix will be completed in a subsequent working group meeting. The plan is to include this matrix in the reformatted document, once the matrix and document are mature enough.

- The committee acknowledged the efforts of the working group and thanked them for their efforts. The committee accepted the Working Group report.
- There were no new action items created during the Plenary, and all existing action items have been closed.

The 20th Plenary was adjourned at 2:00 p.m. on November 3, 2015.

-S-
Stephen Diehl
Secretary

CERTIFIED as a true and accurate summary of the meeting.

-S-
Richard P Nguyen
Chairman