

Summary of the 21th Plenary Special Committee 235 - Non-Rechargeable Lithium Batteries

Meeting Summary:

The 21th Plenary Meeting of Special Committee 235 (SC-235) was held on April 19-20, 2022. The meeting was conducted as a Virtual Meeting with the following attendees participating via WebEx:

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|---|---------------------------------|
| John Trela (Chairman) | The Boeing Company |
| Norman Pereira (Government Authorized Representative) | Federal Aviation Administration |
| Jeff Densmore (Secretary) | Radiant Power Corporation |
| Karan Hofmann (Program Director) | RTCA, Inc. |
| Camilo Camargo | ECA Aerospace |
| Antonio Chiesa | Transport Canada |
| James Christo | NOAA |
| Bryan Easterwood | Federal Aviation Administration |
| Nazih Khaouly | Federal Aviation Administration |
| Frederic Menard | Orolia |
| Fernando Menendez Rodriguez | EASA |
| Kathryn Mulhollen | U.S. Air Force |
| John Neilson | Ultralife |
| Tom Pack | ACR Electronics |
| Paul Pfeifer | Textron |
| Ray Rodriguez | U.S. Air Force |
| Jim Russell | The Boeing Company (retired) |
| Leire Segura Martinez de Ilarduya | Airbus |
| Greg Smith | U.S. Air Force |
| Clayton Vondrasek | Garmin Ltd |
| Jeremy Zee | NIAR |

Opening Plenary

- The 21th Plenary meeting of SC-235 was convened on April 19 and April 20, 2022 at 9:00am EDT by Chair John Trela (Boeing). Jeff Densmore (Radiant Power) was the SC-235 Recording Secretary.
- Norman Pereira was introduced as the Government Authorized Representative.
- An RTCA overview, including RTCA's Proprietary References Policy was read by Karan Hofmann, the Program Director.
- Welcoming remarks were made by John Trela. Each person in attendance was invited to introduce themselves.
- The meeting agenda was reviewed.
- The Meeting Summary for SC-235 Plenary #20 was reviewed with a lengthy discussion regarding how the minutes captured the Open Circuit Voltage agenda topic in the minutes. The committee agreed on rewording of the minutes, and they were eventually accepted as altered. The amended, approved minutes have been reissued on AerOpus.
- All documents and presentation material reviewed during Plenary #21 have been uploaded and are available on in the RTCA AerOpus documents folder.

Plenary #20 Action Item Review

The following two (2) action items were assigned during Plenary #20, with an updated status shown.

- (1) EaglePichar to review their internal OCV test data and share observations with the committee.
Assigned to: Joseph Wells
Status: **OPEN**. Joe was unable to attend the meeting
- (2) Propose an amended OCV requirement to capture how to proceed with cells that exceed the OCV 2% requirement. Suggest an alternate way to demonstrate safety. Action identified, but not assigned
Assigned to: Action identified, and eventually assigned to Paul Pfeifer during a working group meeting.
Status: **CLOSED**. Paul presented a statistical approach to considering cells that exceed the 2% OCV criteria. This proposal was discussed at length during the review of the draft DO-227B.

SC-235 Schedule Review

John Trela discussed the committee's progress towards updating and releasing DO-227B. He revisited the schedule discussed during Plenary #20 and indicated that additional schedule changes may be needed. He presented the following updated timeline representing achievable milestones:

- Upcoming RTCA PMC Meetings: Mar 17, 2022, Jun 23, 2022, Sep 15, 2022, and Dec 15, 2022
- Plenary #19: January 18th (Completed)
- Plenary #20: March 7th (Completed)
- Plenary #21: April 19th and 20th (Committee Review of Draft DO-227B)
- Plenary #22: May 23rd (Open FRAC)
- FRAC Process:
 - Submit Draft DO-227B to RTCA for FRAC May 31st
 - FRAC Start June 7th
 - FRAC comments due July 7th

- Plenary #23: End of August
- Plenary #24: End September / Early October (for SC 235 approval)
- Release Process:
 - Document to RTCA November 1st
 - Target RTCA PMC Approval December 15th

The committee discussed this timeline and agreed this schedule was achievable, though it was felt that an additional Plenary meeting may be needed before FRAC. It was recommended that the SC235 leadership review the schedule and revise as necessary prior to the next Plenary.

Draft DO-227B Review

A draft copy of DO-227B was uploaded into AerOpus the week prior to Plenary #21 to facilitate the committee's review of the document. For Reference, this document was titled "*DO-227B MOPS with track changes April 11 2022.pdf*." The committee spent two full days discussing the proposed changes to the document and agreeing to further edits. Jeff Densmore took an action to document all of these changes in a separate document. Note that the Page Number cited reflects the page number of the PDF document. The changes discussed and incorporated into the Draft DO-227B will still require review and approval via the FRAC process.

Action Item Summary

The following actions were generated during Plenary #20:

- (1) Capture all changes incorporated into the Draft DO-227B as discussed and agreed upon during the Plenary #21 meeting.
Assigned to: Jeff Densmore
- (2) Propose wording for paragraph 2.b. for small, 5Whr batteries to be consistent with the TSO-C142b
Assigned to: Norm Pereira
- (3) Need to Create a Small Working Group to review the Draft DO-227B document for consistency
Assigned to: Action identified, but not assigned
- (4) Clarification requested for comments made regarding the Battery Cell Reversal Test Procedure
Assigned to: Fernando Menendez Rodriguez



Working Group Meetings

Weekly Working Group meetings will continue on Monday's but increase in duration from 9am to 11am (EDT) to continue to draft DO-227B and on Wednesday's at 10am (EDT) to continue to draft the "Best Practices" appendix

Next Plenary

Plenary #22 has been scheduled as a Virtual Meeting on 18-19 May 2022. A detailed agenda and WebEx meeting information will be issued closer to this meeting date.

-S-
Jeff Densmore
Secretary

CERTIFIED as a true and accurate summary of the meeting.

-S-
John Trela
Chairman