



# Summary of the 17<sup>th</sup> Plenary Special Committee 235 - Non-Rechargeable Lithium Batteries Active Status Meeting

## **Meeting Summary:**

The 17<sup>th</sup> Plenary Meeting of Special Committee 235 (SC-235) was held on September 27, 2021. The meeting was conducted as a Virtual Meeting with the following attendees participating via WebEx:

John Trela (Chairman)

Norman Pereira (Government Authorized Representative)

Jeff Densmore (Secretary)

Karan Hofmann (Program Director)

Antonio Chiesa James Christo

Nick Conquest

Claude Cresp Rodolfo Duran Bryan Easterwood

Nazih Khaouly Chris Kusak

Keith McKnight

Frederic Menard

Kathryn Mulhollen John Neilson

Rodrigo Garro Pereira

Fernando Menendez Rodriguez

Ray Rodriguez Jim Russell

Leire Segura Martinez de Ilarduya

Adrian Sfetcu Greg Smith

Clayton Vondrasek

The Boeing Company

Federal Aviation Administration Radiant Power Corporation

RTCA, Inc. Transport Canada

NOAA

National Institute for Aviation Research

ECA Aerospace Astronics DME

Federal Aviation Administration Federal Aviation Administration

U.S. Air Force

Federal Express Corporation

Orolia

U.S. Air Force Ultralife Embraer EASA

U.S. Air Force

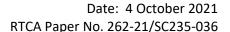
The Boeing Company

Airbus

Bell Helicopter Textron

U.S. Air Force

Garmin





## **Opening Plenary**

- The 17<sup>th</sup> Plenary meeting of SC-235 was convened on September 27, 2021 at 11:00pm 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 #16 was reviewed and approved with one minor change. The title of Paragraph 4 under the Working Group Progress Report was changed from 5Whr Cell discussion to Less than 5Whr Cell discussion. The meeting summary has been amended accordingly and uploaded to the AerOpus folder for Plenary #16 as revision R2.
- All documents and presentation material reviewed during Plenary #17 have been uploaded and are available on in the RTCA AerOpus documents folder. A link to this folder is provided below.

Group - SC-235 Non-Rechargeable Lithium Batteries - AerOpus (i3cloudservices.com)

#### Plenary #16 Action Item Review

There were three (3) action items assigned during Plenary #15. The status of each is reviewed below:

(1) Summarize and forward comments to DO-227A based on previous and on-going testing efforts Assigned to: Susanna Bruffett

Status: **OPEN** 

Susanna was unable to attend Plenary #17. Therefore, she was unable to present any of their comments.

(2) Summarize and forward comments to DO-227A based on previous and on-going installation efforts Assigned to: Leire Segura Martinez de Ilarduya

Status: **OPEN** 

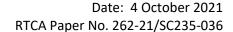
Leire was unable to compile the list of comments prior to Plenary #17.

(3) Submit a draft proposal for allowing mitigation of cell failures at higher levels.

Assigned to: Claude Cresp

Status: **CLOSED** 

Claude submitted proposed wording changes to DO-227A along with rationale. This was reviewed during the Plenary Meeting.





## **Working Group Progress Report**

Jim Russell has been leading the weekly Working Group meetings and provided an update on their activities as follows.

#### 1. Test Sequence

The committee agreed to remove the conflicting language in the requirements and procedure paragraphs to clarify that the end item testing is not required to be performed in a sequence, but rather in parallel.

## 2. Considerations for "Multi-Cell" Cells (such as 9V batteries)

The Working Group has discussed multiple approaches for specifying the scope of "multi-cell" cells, such as 9V batteries. Each was discussed during this Plenary, with the committee agreeing to proceed with treating multi-cell products as a single cell battery as long as the sub-cells are not individually accessible. It was agreed that an improved definition is needed for insertion into DO-227B.

## 3. Mitigation of Cell Failures at the Next Higher Level(s)

Claude's proposal (reference Plenary #16 Action Item 3) to allow mitigation of cell failures at the next higher level(s) was presented and discussed. Cell failures discussed included:

Open Circuit Voltage (OCV): variation of more than 2% below nominal voltages

Cell Capacity: variation of more than 5% below manufacturer's rated capacity

Any Cell Failure causing Rupture or Fire

During the discussion, all the regulatory agencies in attendance rejected the proposal stating that any cell failure other than what is presently allowed would violate Special Condition #1 for installation approval.

Time did not permit discussion of the following items:

- EASA Comments
- Best Practices for measuring Vented Gas Temperatures and Constituency
- Improved Glossary Definitions (Capacity, Fuses, etc)

These topics will continue to be discussed during the Working Group meetings and added to the agenda for the next Plenary meeting.

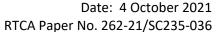
#### **Action Item Summary**

- (1) Summarize and forward comments to DO-227A based on previous and on-going testing efforts Assigned to: Susanna Bruffett
- (2) Summarize and forward comments to DO-227A based on previous and on-going installation efforts Assigned to: Leire Segura Martinez de Ilarduya

# **Working Group Meetings**

Weekly Working Group meetings will continue per the following schedule:

- Wednesday, 13 Oct at 10am (EDT) for 1 hour
- Monday, 18 Oct at 9:30am (EDT) for 1½ hour
- Monday, 25 Oct at 10am (EDT) for 1 hour





• Monday, 1 Nov at 10am (EDT) for 1 hour

# **Next Plenary**

Plenary #18 has been tentatively scheduled as a Virtual Meeting on November 8, 2021. 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