RTCA SC-225: Rechargeable Lithium Batteries and Battery Systems

International Aircraft Systems Fire Protection Working Group
Bremen, Germany
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Fire Safety Branch
http://www.fire.tc.faa.gov
Background

• RTCA SC-225 was formed to provide certification guidance for lithium batteries and battery systems that are permanently installed in aircraft

• Group has been meeting regularly since March, 2011.

• Points of contact are:
  – Chairperson: Richard Nguyen (Boeing)
  – Secretary: Stephen Diehl (Boeing)
  – DFO: Norm Pereira (FAA)
Background

• Members of SC-225 include representatives from:
  – Battery and cell manufacturers
  – Avionics manufacturers
  – Aircraft operators
  – Pilot and flight attendant associations
  – Regulatory and other government agencies
  – Other related industry associations
Previous Documents

- **RTCA/DO-311: “Minimum Operational Performance Standards for Rechargeable Lithium Battery Systems”**
  - Published in March, 2008. Prepared by SC-211.
  - Intended for batteries being used as power sources for equipment devices, emergency lighting, and engine/APU starting.

- **RTCA/DO-347: “Certification Test Guidance for Small and Medium Sized Rechargeable Lithium Batteries and Battery Systems”**
  - Published in December, 2013. Prepared by SC-225.
  - Intended for small and medium sized batteries that are permanently installed on aircraft.
  - Defines test requirements based on battery size.

<table>
<thead>
<tr>
<th>Battery Size</th>
<th>Single Cell Battery</th>
<th>Multi Cell Battery</th>
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</thead>
<tbody>
<tr>
<td>Very Small</td>
<td>&lt; 2 Wh</td>
<td>&lt; 2 Wh</td>
</tr>
<tr>
<td>Small</td>
<td>2 ≤ Wh &lt; 10</td>
<td>2 ≤ Wh &lt; 50</td>
</tr>
<tr>
<td>Medium</td>
<td>10 ≤ Wh &lt; 60</td>
<td>50 ≤ Wh &lt; 300</td>
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Current Status

- Committee is currently working on document RTCA/DO-311A
  - This is an update to the current DO-311.
  - Will integrate coverage for all sizes of batteries.
  - Will incorporate the latest understanding of lithium battery technology, battery testing and installation guidance.
Questions?

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