

**Comments for Draft Revisions(Not Applicable to Directives; Refer to Directive Management Officer for Directive Comment Format)**

[For detailed instructions on how to fill out the columns below, please see the Instructions sheet.](#)

<b>Comments Submitted By:</b>								
<b>Organization:</b>		AME						
<b>Phone:</b>								
#	Document Name	Page Number	Paragraph Number	Referenced Text	Comment/Rationale or Question	Proposed Resolution	Comment Type (Conceptual, Editorial, or Format)	Disposition/Response to Comment
	PS-AIR-20-130-02	2-Jan	None		Does there need to be a section on applicability. For example, does this policy apply to coin or button style rechargable lithium batteries (CR2450) which can be found on most electronic CPU boards and are used to maintain time and date related information between device uses?	Add a section on applicability and define what types of rechargabile lithium ion batteries to which this policy is intended to apply.	Conceptual	Agreed with intent- Please see AC for MOC based on size of lithium batteries.

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			<p>The cells within the rechargeable lithium battery system shall be designed to minimize the impact of self-sustained, uncontrolled increases in cell temperature or pressure, which may result from all foreseeable charging or discharging conditions. The probability of this event must be shown to be extremely remote (one event in 10 million (1x10<sup>-7</sup> flight hours). The rechargeable lithium battery installation must mitigate all hazards associated with those failures.</p>	<p>Is there any empirical evidence which conclusively shows what lithium ion battery design features help to minimize or alleviate "uncontrolled increases in cell temperature or pressure, which may result from all foreseeable charging or discharging conditions. If these changes are uncontrolled, doesn't that necessarily imply that the design features are not working? Please included examples of statistical analysis which proves that certain battery designs are unlikely to experience thermal runaway and show us how to accept that analysis.</p>	<p>Please specify exact design features and verification criteria which ACO engineers can apply to determine that a battery is safely designed. Please show that these specified features trace back to peer reviewed empirical studies which verify the truth of their claims experimentally.</p>	<p>Conceptual</p>	<p>Disagreed- This evaluation is a project by project basis based on criticality and design of the lithium battery system.</p>
			<p>The rechargeable lithium battery system shall be designed to minimize the impact of self-sustained, uncontrolled increases in temperature or pressures as a result of all failures within the battery. The probability of impact must be extremely improbable (one event in 1000 million (1x10<sup>-9</sup> flight hours).</p>	<p>Same comment as above, how are engineers at the ACO going to recognize whether an applicant's presented case and analysis are correct? Can a battery expert tell if this is the case? If so, what criteria do they use? Please enlighten us.</p>	<p>ACO engineers need design criteria or verification and test criteria to allow them to properly evaluate whether applicant submissions are genuine. What features of a rechargeable lithium ion battery guarantee that it will not spontaneously ignite.</p>	<p>Conceptual</p>	<p>Disagreed- the guidance is provided in the AC.</p>
			<p>Emissions shall only escape through designed pressure relief provisions.</p>	<p>Emissions shall only escape safely and harmlessly through designed pressure relief provisions</p>	<p>Maybe this is asking too much.</p>	<p>Conceptual</p>	<p>Disagreed- Safe venting must be the goal. The design vent ports are a mitigating provision for safe venting.</p>





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