European Union Aviation Safety Agency

FAQ n.132530

FAQs:

Lithium batteries (Non-rechargeable), Supplemental Type Certificates

Question:

What is the intent of Note 2 included in the non-rechargeable Lithium batteries (NRLBs) Special Condition's published the 7th of April 2021 in EASA website?

Answer:

Note 2 - included in the non-rechargeable Lithium batteries (NRLBs) Special Condition's of 7th of April 2021- has the intent to allow applicants to substantially increase the level of fire safety of already approved NRLB installations without the need to demonstrate compliance with the special conditions.

Based on "Note 2", the special conditions are not applicable to changes to previously certified non-rechargeable lithium battery installations where the only change is either cosmetic or to relocate the installation to improve the safety of the airplane and occupants. A cosmetic change is a change in appearance only, and does not change any function or safety characteristic of the battery installation. The special conditions are also not applicable to unchanged, previously certified non-rechargeable lithium battery installations that are affected by a change in a manner that improves the safety of its installation. The above exceptions are limited to changes/relocations to baseline aircraft installations approved for certification projects for which the special condition was not applicable.

EASA has determined that allowing the above exceptions is in the public interest because the need to meet all of the special conditions might otherwise deter design changes that may substantially improve safety.

Here an extract of the Special Condition document:

Note 2: *These special conditions apply in lieu of 25.1353(c)(1) through (c)(4) to non-rechargeable lithium battery installations as follows:*

• To all changed installation (new battery part number or new environment) except if the design change can be considered cosmetic. A cosmetic change is a change in appearance only and does not change any function or safety characteristic of the battery installation.

• To all relocated lithium batteries, except if the relocation is demonstrated to improve the safety of the aeroplane and of the occupants, leading to a change that provides a substantial fire safety improvement.

• To all existing non-rechargeable lithium battery installations affected by a design change, even if the battery or battery installation itself does not change.(e.g. change in ambient temperature or pressure environment in which the battery operates, change on the electrical load on a battery). Except if the design change improves the safety of the non-rechargeable lithium battery installation.

Applicants, who intend to justify that this Special Condition is not applicable, shall generate the evidence that the proposed design meets the above criteria in this note 2. This evidence shall include a detailed assessment of the battery installation on the baseline aircraft and the improvement due to the proposed change considering a battery thermal runaway failure for both installations.

The assessment should:

• Consider the battery thermal runaway effects of heat, explosive energy, projecting debris and toxic gases.

• Address the proximity of the battery to occupants, critical systems and equipment, structure, and any other installations that could be a hazard if exposed to a battery thermal runaway (e.g., oxygen bottles/lines, fuel lines).

The above exceptions are limited to changes/relocations to baseline aircraft installations approved for certification projects for which the special condition was not applicable.

CS 25.1353(c)(1) through (c)(4) remains in effect for other battery installations.

Last updated:

23/11/2021

Link:

https://www.easa.europa.eu/en/faq/132530