

PROPOSAL regarding The Modification of the last paragraph of 38.3.3 in the UN Manual of Tests and Criteria – Test Requirement for the Battery Assembly without a Battery Management System.

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In processing competent authority applications, a question comes up as to whether or not there is a need to demonstrate that each individual battery within a completed battery assembly should also pass the test, when the assembly has passed the T.7 test. In another way, is the capability of the battery assembly to pass the T.7 overcharge test sufficient to demonstrate that the battery assembly will not overcharge with or without the overcharge protection in place? At the last paragraph of 38.3.3, 33.3 an exception is provided for battery assemblies which are assembled from the tested batteries for lithium metal and lithium ion batteries in 38.3.3 (f) and the last paragraph of 38.3.3. These are paraphrased follows:

1. Batteries must be tested in accordance with 38.3.3 (d) unless the battery assembly is equipped with overcharge protection.
2. Battery assemblies assembled from the tested batteries:
 - a. Not more than 500 g for a lithium metal battery assembly or not more than 6200 Wh for a lithium ion battery assembly, one battery must be tested for T.7 (38.3.3 (f)).
 - b. More than 500 g for a lithium metal battery assembly or more than 6,200 Wh for a lithium ion battery assembly, that battery assembly needs not be tested if it is equipped with a system capable of monitoring the battery assembly and preventing short circuits, or over discharge between the batteries in the assembly and any overheat or overcharge of the battery assembly.

The question arises when the batteries without overcharge protection are intended for installation in a battery assembly that also does not have overcharge protection and when the battery assembly has passed the test, are the batteries subject to test T.7? In other words when a battery assembly with more than 6,200 Wh and not equipped with a BMS, the last paragraph of 38.3.3 is silent about its testing requirement. To clarify this ambiguity, it is proposed to insert following paragraph at the end of the last paragraph of 38.3.3.

Proposal

Insert the following sentence at the end of the last paragraph of 38.3.3.

If it is not equipped with such a system, one battery assembly in a fully charged state shall be tested under tests T.3, T.4, T.5, and, in addition, test T.7 in case of rechargeable battery assembly. For a rechargeable battery assembly, the assembly shall be have been cycled at least 25 cycles.