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## Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

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### Sub-Committee of Experts on the Transport of Dangerous Goods

#### Fifty-eighth session

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Item 4 (c) of the provisional agenda

**Electric storage systems: transport provisions**

## **Lithium-ion batteries testing, paragraph 38.3 g) update**

**Transmitted by RECHARGE the Advanced Rechargeable & Lithium Batteries Association and PRBA – The Rechargeable Battery Association**

### **Introduction**

1. The fast changes in the lithium batteries technologies, supporting the strong development of new applications, generates questions about the applicability of the current UN Manual of Test and Criteria (MTC), paragraph 38.3. Particularly, the development of large batteries for various applications, like large electric vehicles (EV) and trucks batteries, or stationary Energy Storage Systems requires the transport of batteries or batteries parts that cannot be tested as transported.
2. Paragraph 38.3.3 g) of the MTC has been modified during the last biennium to take into account the case of large battery parts that can be transported without overcharge protection system. As a result of the discussion, it was considered that there was no need to verify the protection overcharge at the transported part level, as long as:
  - “the overcharge protection was verified at the battery, equipment or vehicle level, as appropriate, and
  - a physical system or process controls that include relevant activities to prevent risk of overcharge of the battery was implemented.”
3. It is proposed in this document to apply the same approach for the short-circuit test in the case of large battery parts that are transported before assembly of the full battery, or the full system. Like in the case of the overcharge protection mentioned above, the short circuit protection may not be available in the transported system.
4. The requirement to have a short circuit protection is always part of the packaging instructions requirements, therefore avoiding the risk of short circuit during transport. In addition, the components of the assembled battery as described in 38.3.3 g) have already been tested.
5. Based on this background, it is proposed to apply for the short circuit tests the same approach as the one applied to the overcharge protection: a large module may not be tested if there is no risk of the short during the manufacturing process and the short circuit protections for the use condition are provided at the complete battery level or at the system level.

## Proposal

6. Paragraph 38.3.3 g), last sub-paragraph amend to read as follows:

“For a battery not equipped with overcharge or short circuit protection that is designed for use only as a component in another battery, in equipment, or in a vehicle, which affords such protection:

- the overcharge or short circuit protection shall be verified at the battery, equipment or vehicle level, as appropriate, and
  - a physical system or process controls that include relevant activities to prevent risk of overcharge or short circuit of the battery shall be implemented.”
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