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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****Sub-Committee of Experts on the Transport of Dangerous Goods****Fifty-fourth session**

Geneva, 26 November-4 December 2018

Item 6 of the provisional agenda

**New proposals for amendments to the Model Regulations  
on the Transport of Dangerous Goods****Amendment to 38.3.3 (g) of the Manual of Tests and Criteria****Transmitted by the European Association for Advanced Rechargeable  
Batteries (RECHARGE) and the Rechargeable Battery Association  
(PRBA)\*****Introduction**

1. The development of Li-ion batteries in e-mobility and energy storage is generating a number of new transport situations, which were not anticipated in the regulation and in the testing conditions of the Manual of Tests and Criteria revision 6, amendment 1. Particularly, the assembly and the maintenance of large assembled batteries used for e-mobility or energy storage is requiring the transport of parts of these large batteries. The parts of these large batteries are made themselves from an assembly of batteries that are connected together. Although these parts of batteries can be large, they may not be equipped with battery overcharge protection, as these are provided for in the hosting equipment or battery, but still need to be transported.

2. When these parts of assembled batteries have an energy greater than 6200 Wh, it should be referred to the paragraph 38.3.3 (g) of the Manual of Tests and Criteria to verify the compliance with the testing requirements, based on the fact that they are assembled with batteries that have passed all applicable tests and provided that some protection conditions have been verified. Overcharge protection verification is required as one of these conditions allowing to use the provision provided in 38.3.3 (g), which implies according to the text that an overcharge protection equipment should necessarily be included in the design of the part of battery.

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\* In accordance with the programme of work of the Sub-Committee for 2017–2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, para. 14).

3. Paragraph 38.3.3 (d) of the Manual of Tests and Criteria provides exemption of overcharge testing to batteries, when the overcharge protection is afforded in the hosting equipment or in another battery in which it is assembled. In this case, there is no limitation of energy or size to benefit of the exemption.
4. The text in paragraph 38.3.3 (g) of the Manual of Tests and Criteria does not allow for a similar exemption, although exemption should be applicable also for part of batteries larger than 6200 Wh according to paragraph 38.3.3 (d).
5. This proposal introduces an additive sentence in the wording in paragraph 38.3.3 (g) to clarify this possibility.

## Proposal

6. Add a new paragraph at the end of the existing text of 38.3.3 (g) as follows (new text is underlined):

When batteries that have passed all applicable tests are electrically connected to form a battery in which the aggregate lithium content of all anodes, when fully charged, is more than 500g, or in the case of lithium ion battery, with a Watt-hour rating of more than 6200 Wh, the assembled battery does not need to be tested if the assembled battery is of a type, that has been verified as preventing

- (i) Overcharge;
- (ii) Short circuits, and
- (iii) Over discharge between the batteries.

An assembled battery not equipped with battery overcharge protection that is designed for use only as a component in a larger assembled battery, in equipment, or vehicle, which affords such protection, is not subject to the verification of the overcharge protection.”.

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