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Item 4 (a) of the provisional agenda
Electric storage systems: testing of lithium batteries

Applicability of packing instruction LP906, and clarification of packing instruction P911

Transmitted by the European Association for Advanced Rechargeable Batteries (RECHARGE), International Organisation of Motor Vehicle Manufacturers (OICA), PRBA – The Rechargeable Battery Association and the Council on Safe Transportation of Hazardous Articles (COSTHA)*

Introduction

1. This document is a follow-up of the proposal introduced in ST/SG/AC.10/C.3/2019/23, and informal document INF.51 (55th session), and ST/SG/AC.10/C.3/2019/49 with informal document INF.47 (56th session).

2. During the last sessions discussions, proposals were made to clarify that the hazards in case of transport of multiple batteries in the LP906 could be controlled and verified during the packaging verification test, as specified by the competent authority.

3. Nevertheless, some remaining concerns were expressed, mainly focusing on the issue of potential misuse of the packaging, in the case it would be allowed for multiple batteries. The potential misuse of the packaging would therefore increase the potential risk during transport, and the transport of multiple batteries may increase the hazard in transport. The opinion that packaging instructions would be useful was also expressed.

4. The authors would like to bring answers to the questions raised and propose additional text clarifying the correct usage of the packaging. Concerning the risk of misuse of the packaging, it is recognized that the possibility to transport several items instead of one could increase the complexity of the package design and usage: particularly when it comes to the protective wrapping of the batteries, or their installation with separations. To answer this concern, it is proposed to add a request for a specific set of "instructions for use" specific to each verified packaging. These instructions would include the protections and separations, as well as the internal configuration for the items contained, applicable to this packaging. In the United States of America, these types of "instructions" are commonly referred to as "closure

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instructions" and must be closely followed by all individuals using any type of UN performance packagings. The United States hazardous materials regulations also mandate that a copy of closure instructions be made available for inspection by the Department of Transportation's hazardous materials enforcement agencies. The proposed "instructions for use" would follow a similar protocol.

5. The authors confirm that the P911 and LP906 packaging are designed for the transport of damaged batteries "liable to react" during transport. Therefore, the hazards in the case of reaction are contained by design inside the packaging. In case of multiple items contained in the package, there is a need to clarify that the total energy of the multiple batteries is not exceeding the hazards tested during the validation process. This can be achieved thanks to the identification of the batteries or items of equipment placed inside the packaging. It is proposed that this identification be part of the "instructions for use".

6. The benefit of these instructions is not only the avoid the misuse of the package, but also facilitate the transparency in the logistic chain about the batteries or item of equipment transported in the package, and avoid uncontrolled mixes or non-verified changes.

7. The note [a] in LP906 describes the criteria that are relevant to consider while assessing the performance of the large packaging. It is proposed to add in this note some guidance and criteria to be considered in the case of a test for qualification of a packaging for multiple batteries. This guidance takes into account the comments from the delegates, as well as some additional points. In addition, it is proposed to add a point 4 in the LP906, introducing the "instructions for use".

8. The changes in LP906 are described in proposal 1.

9. Finally, a comment was provided underlining the benefits of the added paragraph in the note [a] for packaging of multiple batteries, as proposed in LP906, but also as already possible in P911. Therefore, it is proposed to also add the same paragraph at the end of the note [a] of P911.

10. The changes in P911 are described in proposal 2.

Proposal 1

11. Amend the third sentence of LP906 to read:

"For ~~a single~~ batter~~y~~ies and items of equipment containing batteries ~~contained in a single item of equipment~~:"

12. Modify the second paragraph of the point 2 of LP906:

"A verification report shall be made available on request. As minimum requirement, the batteries name, the batteries number, the mass, type, energy content of the batteries, the large packaging identification and the test data according to the verification method as specified by the competent authority shall be listed in the verification report."

13. Add a point 4 in LP906

"(4) The instructions for the usage conditions of the package shall be made available to the shipment stakeholders. It shall include at least the identification of the batteries and items of equipment that may be contained inside the packaging, their maximum number and energy, as well as the configuration inside the package, including the separations and protections used during the performance verification test."

14. Add a paragraph (i) into the note [a] of LP906 as follows:

"*(i) In the case of multiple batteries and multiple items of equipment containing batteries, additional requirements such as the maximum number of batteries and items of equipment, the total maximum energy content, and the configuration inside the package, including separations and protections of the parts, shall be considered.*"

Proposal 2

15. Add a paragraph (i) into the note [a] of P911, as follows:

"*(i) In the case of multiple batteries and multiple items of equipment containing batteries, additional requirements such as the maximum number of batteries and items of equipment, the total maximum energy content, and the configuration inside the package, including separations and protections of the parts, shall be considered*."