

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

24 November 2014

Forty-sixth session

Geneva, 1-9 December 2014

Item 2 (c) of the provisional agenda

**Recommendations made by the Sub-Committee on its forty-third,
forty-fourth and forty-fifth sessions and pending issues: electric storage systems**

Comment on the working document ST/SG/AC.10/C.3/2014/105 submitted by the expert from United Kingdom on “Transport of lithium batteries of small productions runs or prototype lithium batteries in equipment”

**Transmitted by the European Association for Advanced Rechargeable
Batteries (RECHARGE) and by the Rechargeable Battery Association
(PRBA)**

Introduction

1. In the working paper ST/SG/AC.10/C.3/2014/105, the United Kingdom presents a proposal where Special Provision 310 is modified by introducing a separate packing instruction, which we support with the amendments listed below.
2. This proposal introduces some clarification between the field of application of the Special Provision and the practical packing requirements.
3. RECHARGE and PRBA are submitting to the Sub-Committee the following proposed amendments to ST/SG/AC.10/C.3/2014/105:
 - 3.1 A reference to P910 in the text of SP 310.
 - 3.2 The title of the Packing Instruction P910 (new) which reflects the field of application of the SP 310.
 - 3.3 The requirement for short circuit protection should be introduced in the section “additional requirements” together with a description of the various means to obtain this protection.
 - 3.4 A simplification of the introduction of § 3 which addresses “the equipment and batteries that may be transported unpackaged under certain conditions”. This would be consistent with the text of INF.62.Rev.1 introduced during the 45th session of the UN Sub-Committee.
 - 3.5 A reference to SP377 and P909 could be introduced in parallel with the reference to SP376 and P908 to clarify what regulations apply to lithium cells and batteries being shipped for disposal or recycling.
4. It may be necessary to prepare a Large Packaging instruction in accordance with the decision of the Committee on the working paper ST/SG/AC.10/C.3/2014/105.

RECHARGE and PRBA are willing to prepare such an LP for the 47th session of the UN Sub-Committee.

Proposal

“310 The testing requirements in Chapter 38.3 of the *Manual of Tests and Criteria* do not apply to production runs consisting of not more than 100 cells and batteries, or to pre-production prototypes of cells and batteries when these prototypes are transported for testing when packaged in accordance with Packing Instruction P910” [The rest of the text of SP310 is deleted]

Insert a new packing instruction in 4.1.4.1 as follows:

P910	PACKING INSTRUCTION	P910
<p>This instruction applies to UN Nos. 3090, 3091, 3480 and 3481 <u>production runs consisting of not more than 100 cells and batteries, or to pre-production prototypes of cells and batteries when these prototypes are transported for testing in accordance with Special provision 310.</u></p>		
<p>The following packagings are authorized provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>(1) For prototype cells and batteries, <u>including when packed with equipment</u>:</p> <p style="padding-left: 40px;">Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G); Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2); Jerricans (3A2, 3B2, 3H2).</p> <p>Packagings shall conform to the packing group II performance level and shall meet the following requirements:</p> <p>(a) Batteries and cells, including equipment, of different sizes, shapes or masses shall be packaged in an outer packaging of a tested design type listed above provided the total gross mass of the package does not exceed the gross mass for which the design type has been tested;</p> <p>(b) The cells and batteries shall be protected against short circuit.</p> <p>(b e) Each cell or battery shall be individually packed in an inner packaging and placed inside an outer packaging;</p> <p>(c d) Each inner packaging shall be completely surrounded by sufficient non-combustible and non-conductive thermal insulation material to protect against a dangerous evolution of heat;</p> <p>(d e) Appropriate measures shall be taken to minimize the effects of vibration and shocks and prevent movement of the cells or batteries within the package that may lead to damage and a dangerous condition during transport. Cushioning material that is non-combustible and non-conductive may be used to meet this requirement;</p> <p>(e f) Non-combustibility shall be assessed according to a standard recognized in the country where the packaging is designed or manufactured;</p> <p>(f g) A cell or battery with a net mass of more than 30 kg shall be limited to one cell or battery per outer packaging.</p> <p>(2) For prototype cells and batteries contained in equipment:</p> <p style="padding-left: 40px;">Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G); Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2); Jerricans (3A2, 3B2, 3H2).</p> <p><u>Packagings shall conform to the packing group II performance level and shall meet the following requirements:</u></p> <p>(a) Equipment of different sizes, shapes and masses shall be packaged in an outer packaging of a tested design type listed above provided the total gross mass of the package does not exceed the mass for which the design type has been tested;</p> <p>(b) The cells and batteries shall be protected against short circuit;</p> <p>(b e) The equipment shall be constructed or packaged in such a manner as to prevent accidental operation during transport;</p>		

- (c ~~d~~) Appropriate measures shall be taken to minimize the effects of vibration and shocks and prevent movement of the equipment cells or batteries within the package that may lead to damage and a dangerous condition during transport. When cushioning material is used to meet this requirement it shall be non-combustible and non-conductive; and
- (d ~~e~~) Non-combustibility shall be assessed according to a standard recognized in the country where the packaging is designed or manufactured.
- (3) The equipment or the batteries may be transported unpackaged under conditions specified by the competent authority. Additional conditions that may be considered in the approval process include, but are not limited to:
- (a) The equipment or the battery shall be strong enough to withstand the shocks and loadings normally encountered during transport, including transshipment between cargo transport units and between cargo transport units and warehouses as well as any removal from a pallet for subsequent manual or mechanical handling; and
- (b) The equipment or the battery shall be fixed in cradles or crates or other handling devices in such a way that it will not become loose during normal conditions of transport.

Additional requirements.

The cells and batteries shall be protected against short circuit:

“Protection against short circuits includes, but is not limited to,

-individual protection of the battery terminals,

-inner packaging to prevent contact between cells and batteries,

-batteries with recessed terminals designed to protect against short circuits, or

-the use of a non-conductive and non-combustible cushioning material to fill empty space between the cells or batteries in the packaging.”

~~Prototype~~ Damaged or defective cells, batteries, or cells and batteries contained in equipment shall be transported in accordance with special provision 376 and packaged in accordance with P908 of 4.1.4.1 or LP904 of 4.1.4.3, as applicable.

Cells, batteries or cells and batteries contained in equipment shipped for disposal or recycling shall be packaged in accordance with special provision 377 and P909 of 4.1.4.1.

5. Assign packing instruction P910 to UN Nos. 3090, 3091, 3480 and 3481 in column 8 of the Dangerous Goods List in Chapter 3.2.