

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

11 November 2020

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

#### Fifty-seventh session

Geneva, 30 November-8 December 2020

Item 4 (f) of the provisional agenda

**Electric storage systems: miscellaneous**

## Proposed amendments to packing instruction LP903

### Transmitted by PRBA – The Rechargeable Battery Association

#### Introduction

1. PRBA has reviewed with great interest the United Kingdom proposals in document ST/SG/AC.10/C.4/2020/52 which would amend Large Packing Instruction LP903 to allow multiple lithium batteries and multiple items of equipment containing lithium batteries to be transported in a single large packaging. For the reasons offered in that document, PRBA supports those proposals in principle.

2. Technical progress in the development of large format lithium batteries as well as large lithium battery-powered equipment, has led to mass production of large format lithium cells. At present, these cells must be transported in UN packagings, typically fiberboard UN 4G packages. PRBA believes it is not only appropriate, but safer to transport these large format cells in large packagings as authorized under Packing Instruction LP903 in a manner similar to that proposed by the United Kingdom for multiple batteries, and requests the Sub-Committee to consider this concept.

#### Discussion

3. PRBA recognizes that concern has been expressed relative to the use of large packagings to transport very large numbers of quite small cells, and PRBA acknowledges the reservations expressed in this regard. PRBA notes, however, that in 38.3.2 of the *Manual of Tests and Criteria*, a “small cell” is defined as a cell with a gross mass not more than 500 g, whereas a “large cell” is defined as a cell with a gross mass of more than 500 g. PRBA believes that confining the transport of cells in large packagings only to those defined as “large cells” in the *Manual of Tests and Criteria* will resolve the concern that extremely large numbers of very small cells would be transported in large packagings by, in effect, imposing a practical limit on the number of cells in any large packaging. We also are proposing a maximum gross mass limit of 1500 kg for the packaging.

4. In terms of safety, PRBA notes that a large packaging containing such large cells, properly isolated from one another, would pose no greater risk than numerous smaller 4G packages containing the same number of cells when stacked on a pallet for transport - which is the method currently utilized. The use of a large packaging instead of numerous smaller packages contributes to safety by replacing necessary handling of multiple small packages by the mechanical handling of a single large packaging. One PRBA member estimates that as many as 1000 fewer truck and rail shipments per year would be needed to transport their large cells if use of large packaging was authorized. This also would result in a substantial reduction in CO<sub>2</sub> emissions from vehicles, reduce packaging wastes, and, unlike 4G packages, large packagings and their internal components are more suitable for reuse.

5. This method of shipping larger format cells would be utilized primarily in supplying the cells to manufacturing facilities where they are employed in the manufacture of large format batteries or equipment. In concept, this is not unlike the current provisions for Class 9 “safety devices,” such as air bag modules (UN 3268) which include an explosives initiator, which are allowed not only in large packagings but in special handling devices to facilitate the installation of the articles at assembly plants. In a similar manner, the use of large packagings for large cells would ease handling and facilitate the installation of these large cells into large format batteries, or equipment employing these larger cells, at assembly facilities.

6. For these reasons, PRBA proposes to modify the United Kingdom proposals in document ST/SG/AC.10/C.3/2020/52 to also authorize the transport of cells in large packagings, and to limit the cells that may be transported to those defined as “large cells” in the *Manual of Tests and Criteria*.

### Proposal

7. It is proposed that Large Packing Instruction LP903 be amended as provided below (includes amendments proposed by United Kingdom, with deleted text ~~struck through~~ and new text underlined. PRBA amendments are also **highlighted**).

LP903	PACKING INSTRUCTION	LP903
This instruction applies to UN Nos. 3090, 3091, 3480 and 3481		
<p>The following large packagings are authorized for <b>cells, a single battery</b>ies and for <del>a single item</del> of equipment containing batteries, provided that the general provisions of <b>4.1.1</b> and <b>4.1.3</b> are met:</p> <p>Rigid large packagings conforming to the packing group II performance level, made of:</p> <ul style="list-style-type: none"> <li>steel (50A);</li> <li>aluminium (50B);</li> <li>metal other than steel or aluminium (50N);</li> <li>rigid plastics (50H);</li> <li>natural wood (50C);</li> <li>plywood (50D);</li> <li>reconstituted wood (50F);</li> <li>rigid fibreboard (50G).</li> </ul> <p><u>The Each <b>cell</b>, battery or <del>the piece of</del> equipment shall be wrapped or packed in an inner packaging and the outer packaging provided with dividers or partitions so that each battery or piece of equipment is separated to ensure <del>packed so that the</del> <b>cell</b>, battery or the equipment is protected against damage that may be caused by its movement of placement within the large packaging.</u></p>		
<p><b>Additional requirement:</b></p> <p>Batteries shall be protected against short circuit.</p> <p><b>Only large cells with a gross mass of more than 500 g are authorized to be packaged in large packagings not exceeding a maximum gross mass of 1500 kg.</b></p>		