



**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****Forty-second session**

Geneva, 3 December – 11 December 2012

Item 2 (c) of the provisional agenda

**Recommendations made by the Sub-Committee on its thirty-ninth,
fortieth and forty-first sessions and pending issues: electric storage systems****Special Provision and Packing Instructions for the transport
of waste lithium batteries****Transmitted by The Rechargeable Battery Association (PRBA) and the
International Association for the Promotion and Management of
Portable Rechargeable Batteries (RECHARGE)¹****Introduction**

1. During the previous sessions of the Sub-Committee, several lunchtime working groups were organized to address the issue of transporting waste lithium batteries. In addition, PRBA and RECHARGE filed the working paper ST/SG/AC.10/C.3/2012/39 to provide Sub-Committee members information on how the transport of waste lithium batteries in a mix with other non-lithium batteries is regulated in accordance with the ADR.
2. There was agreement during these working groups that the Model Regulations should have provisions to address the transport of waste batteries. There also was recognition that any new regulations on waste batteries for the Model Regulations should generally be consistent with the existing regulations (e.g. ADR) but that certain provisions need to be modified to take into consideration differences in international battery collection and recycling activities, changes in lithium ion technologies for consumer applications and uncertainty over how some provisions of the ADR are being implemented.
3. PRBA and RECHARGE have prepared this new proposal based on comments from the lunchtime working groups and correspondence received from several Sub-Committee members since the fortieth and forty-first sessions. The proposal includes a redrafted

¹ In accordance with the programme of work of the Sub-Committee for 2011-2012 approved by the Committee at its fifth session (refer to ST/SG/AC.10/C.3/76, para. 116 and ST/SG/AC.10/38, para. 16).

Special Provision XXX and Packing Instructions P903a. These proposed requirements have been successfully used in Europe pursuant to the ADR Regulations and in the USA pursuant to 49 CFR where thousands of tonnes of waste batteries have been safely collected and transported for disposal or recycling on a yearly basis.

4. Proposed Special Provision SP XXX and Packing Instruction P903a provide for the following:

- (a) The transport for disposal or recycling of lithium cells and batteries with or without other waste non-lithium cells and batteries;
- (b) Transport requirements for small, consumer-type lithium ion cells with a Watt-hour rating of not more than 20 Wh and lithium ion batteries with a Watt-hour rating of not more than 100 Watt-hours;
- (c) Transport requirements for small, consumer-type lithium metal cells with a lithium content of not more than 1 g and lithium metal batteries with an aggregate lithium content of not more than 2 g;
- (d) Packaging for cells and batteries between the first consumer collection point and the first consolidation facility in packages that do not exceed 120 kg and conform to the PG II performance level;
- (e) Transport requirements for cells and batteries that exceed the Watt hour or lithium metal content limits specified above in subparagraphs ii and iii that includes PG II performance level, except for batteries that are above 12 kg and have a strong, impact resistant outer casing; and
- (f) Package marking requirements related to the transport of these batteries for disposal or recycling.

In addition, the protection against short circuits can be secured either by individual protection of terminals, use of non-combustible or non-conductive cushioning materials or by battery design. It is suggested also to allow the use of a polyethylene bag that shall be closed in order to reduce the movement of batteries during transport hence the risk of short-circuits.

Proposal

5. In consideration of the foregoing, PRBA and RECHARGE invite the Sub-Committee to consider the following proposal for a new Special Provision SP XXX and Packing Instructions P903a for waste lithium batteries transported for disposal or recycling.

SP XXX Lithium ion and lithium metal cells and batteries and equipment containing such cells and batteries transported for disposal or recycling, either packed together with or packed without other non-lithium batteries, may be packaged in accordance with the following provisions:

- (a) Lithium ion cells with a Watt-hour rating of not more than 20 Wh, lithium ion batteries with a Watt-hour rating of not more than 100 Wh, lithium metal cells with a lithium content of not more than 1 g and lithium metal batteries with an aggregate lithium content of not more than 2 g are not subject to other provisions of these Regulations if:
 - i. They are designed or packaged to prevent short circuits and/or the dangerous evolution of heat and packed in strong outer packagings of not more than 30 kg gross mass, or in UN approved packaging (Drums 1H2, Boxes 4H2 or Jerricans 3H2) up to 120 kg when collected with mixed

batteries and transported between the first consumer collection point and the first consolidation facility; or

ii. Packages are marked “LITHIUM BATTERIES FOR DISPOSAL” or “LITHIUM BATTERIES FOR RECYCLING” and with an indication that the package should be handled with care and a flammability hazard exists if the package is damaged.

(b) Cells and batteries that do not meet the requirements of paragraph (a) shall comply with all provisions of these Regulations, except the requirements of Section 2.9.4, and packed in accordance with P903a. Packages shall be marked “LITHIUM BATTERIES FOR DISPOSAL” or “LITHIUM BATTERIES FOR RECYCLING”.

(c) Identified damaged or defective batteries shall be transported in accordance with SP YYY and P9XX.

P903a	Packing Instruction	P903a
	<p>This packing instruction applies to lithium ion cells and batteries and lithium metal cells and batteries and equipment containing such cells and batteries transported for disposal or recycling, either packed together with or packed without other non-lithium batteries:</p> <p>(1) The following packaging are authorized, provided that the general provisions of 4.1.1 and 4.1.3, are met: Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G); Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H2); and Jerricans (3A2, 3B2, 3H2).</p> <p>Packagings shall conform to the packing group II performance level.</p> <p>Metal packagings 1A2, 1B2, 1N2, 4A, 4B, 4N, 3A2, 3B2 shall be fitted with a non-conductive lining material (<i>e.g.</i>, plastic) of adequate strength for the intended use.</p> <p>(2) In addition, for cells or batteries with a gross mass of 12 kg or more employing a strong, impact resistant outer casing, in strong outer packagings constructed of suitable material and of adequate strength and design in relation to the packagings capacity and its intended use. Packagings need not meet the requirements of 4.1.1.3.</p>	
	<p>Additional requirements:</p> <p>Cells and batteries also shall be designed or packaged to prevent short circuits and/or the dangerous evolution of heat. Protection against short circuits and/or the dangerous evolution of heat may include, but is not limited to,</p> <ul style="list-style-type: none"> - individual protection of the battery terminals, - batteries with terminals designed to protect against short circuits, - use of non-combustible and non-conductive material in order to fill the volume of the container, or - when the packaging is entirely fitted with a polyethylene bag which is closed. 	