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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****Forty-second session**

Geneva, 3 – 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****Transitional measures for lithium batteries****Transmitted by the International Association for the Promotion and  
Management of Portable Rechargeable Batteries (RECHARGE)<sup>1</sup>****Introduction**

1. Lithium cells and batteries offered for transport must be of a type proved to meet the requirements of each test of the Manual of Test and Criteria, part III, subsection 38.3. The Manual of Tests and Criteria is amended on a regular basis when and if needed. So are the test requirements in subsection 38.3. The actual release of the Manual is revision 5 followed by the 1<sup>st</sup> amendment to revision 5, which will be implemented in the Model Regulations by a reference in the definition of Manual of Tests and Criteria in section 1.2.1. In general a release of the Model Regulations corresponds with a clearly defined release of the Manual of Tests and Criteria.
2. Subsection 38.3 of Part III of the Manual of Tests and Criteria includes definitions of lithium batteries and describes the test procedures for those. The tests represent a clear and unavoidable market requirement for any lithium cell and battery newly developed and brought to market.
3. To reflect the requirements that lithium batteries have to be tested in accordance with the latest version of the Manual of Tests and Criteria, various provisions have been added to the different modal regulations throughout the current biennium as follows:

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<sup>1</sup> 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)

ADR/RID/ADN 1.6.1.24 (as introduced to the joint meeting ADR/RID/ADN with document number ECE/TRANS/WP.15/AC.1/2011/30/Add.1 dated June 29, 2011):

*Lithium cells and batteries manufactured before 1 January 2014, which had been tested in accordance with the requirements applicable until 31 December 2012 but which had not been tested in accordance with the requirements applicable as from 1 January 2013, and appliances containing such lithium cells and batteries, may continue to be carried if all the other applicable requirements are fulfilled.*

IMDG Code 2.9.4.1 (as discussed with informal document INF.41 submitted at the 39<sup>th</sup> session)

*"However batteries and cells manufactured before 1 January 2014 and conforming to a design type tested according to requirements of the 5th revised edition of the Manual of test and criteria, part III, sub section 38.3 may continue to be transported."*

ICAO T.I. PI965-970 (as included in the letter of transmittal of the Twenty-third meeting of the Dangerous Goods Panel (DGP) (2011), page 148ff.)

*Lithium ion cells and batteries may be offered for transport if they meet the following: ...3) each cell or battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN Manual of Tests and Criteria, Part III, sub-section 38.3 may continue to be transported;*

4. The newly implemented transitional provisions for the testing of lithium batteries clearly refer to specific dates and also specific versions of the Manual of Tests and Criteria.
5. This proposal shall enhance the provisions currently in existence or planned for ADR/RID/ADN/IMDG-code and ICAO T.I. to make them compliant with future amendments to the Manual of Tests and Criteria and to reduce the needs for regular updates of the above regulations each and every biennium

## **Justification**

6. Currently implemented versions of the transitional measure enable transport of lithium batteries manufactured prior to a certain date when tested in accordance with the Manual of Tests and Criteria valid at that time. Because defined dates are given, this measure is subject to regular amendments and increases the burden to maintain the Model Regulations.
7. This proposal does not prohibit future amendments to the Model Regulations to reflect the need to refer to later versions of the Manual of Tests and Criteria for all lithium batteries in the marketplace.
8. The transitional measure would no longer reflect the manufacturing date but ensure that the type of battery, once tested in accordance with the requirements applicable at the time of market introduction may be offered for transport without ongoing re-testing during its product life.
9. Lithium batteries are subject to intense research and development for increased safety and performance. Product development cycles are often rather short and lifecycles can easily be up to 20 years. Replacement lithium battery products are likely on a regular basis, including new battery testing in accordance with latest release of the 38.3 test

procedures. Batteries and large lithium batteries are not products on their own but are always integrated in a type of machinery up to electric vehicle integration. Battery integration also includes integration of the battery management system with the software of the machinery, equipment or vehicle.

10. Although lithium battery technology is emerging constantly, existing battery designs and constructions, once integrated in high cost and long lifetime products must be kept available for service purpose. It is therefore likely that - after years – a lithium battery of carry over design must be manufactured and delivered. Extensive re-testing represents crucial burden without adding a higher transport safety level.

11. The Model Regulations do not have a structurally common location for transitional measures. Current transitional measures in the modal regulations can be found in different places (ADR: 1.6.1.10. and 1.6.1.24; IMDG Code: 2.9.4.1; ICAO T.I.: Packing instructions P965-970). Transitional measures for the test procedures of lithium batteries are available in all modal regulations. It is therefore reasonable to manage them through the Model Regulations. The most suitable location for this is subsection 2.9.4

## **Proposal**

12. Amend subsection 2.9.4 of the Model Regulation by adding the following provision:

- (f) Cells and batteries tested in accordance with the requirements of the Manual of Test and Criteria, Part 3, subsection 38.3, applicable at the time of their design and construction according to the provisions of the regulations which were applicable at that time, may still be offered for transport, unless restricted by a special transitional measure.
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