



**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****Sixtieth session**

Geneva, 27 June-6 July 2022

Item 4 (c) of the provisional agenda

Electric storage systems: transport provisions**Lithium battery test summary****Submitted by the PRBA – The Rechargeable Battery Association,
European Association for Advanced Rechargeable Batteries
(RECHARGE), and Medical Device Transport Council (MDTC)*****Introduction**

1. This working document includes a minor amendment to the lithium battery Test Summary (TS) found in 38.3.5 of the UN Manual of Tests and Criteria (“UN Manual”) that removes the requirement to list a specific edition or amendment of the UN Manual in the TS. As more fully explained below, this minor amendment will help facilitate compliance with the TS and significantly reduce the confusion over which revised edition/amendment must be referenced in the TS.

2. Lithium cell and battery manufacturers and downstream distributors are required to make available a TS as specified in the UN Manual, Part III, sub-section 38.3, paragraph 38.3.5, and 2.9.4 (g) of the Model Regulations. Several documents have been submitted to the Sub-Committee since 2019 to explain the unique challenges the industry has encountered implementing the TS requirements. Members of the Sub-Committee, to their credit, have acknowledged these unique challenges and agreed to several minor amendments to the TS such as removing the signature requirement and exempting button cells embedded in equipment and circuit boards from the TS.

3. New editions and amendments to the UN Manual are issued every two years. Below is a list of the revised editions and amendments to the UN Manual since 2013 when the fifth revised edition, amendment 1 was issued.

- i. UN Manual of Tests and Criteria, 5th Revised Edition, Amendment 1 (*Effective 1 January 2013*)
- ii. UN Manual of Tests and Criteria, 5th Revised Edition, Amendment 2 (*Effective 1 January 2015*)

* A/75/6 (Sect.20), para. 20.51

- iii. UN Manual of Tests and Criteria, 6th Revised Edition (*Effective 1 January 2017*)
- iv. UN Manual of Tests and Criteria, 6th Revised Edition, Amendment 1 (*Effective 1 January 2019*)
- v. UN Manual of Tests and Criteria, 7th Revised Edition (*Effective 1 January 2021*)
- vi. UN Manual of Tests and Criteria, 7th Revised Edition, Amendment 1 (*Effective 1 January 2023*)

4. While the “Effective” dates listed above reference 1 January 2013 through 1 January 2023, in fact, the effective dates for the UN Manual or an amendment thereto will vary depending on the mode of transport being used, geographic region where lithium batteries and lithium battery-powered products are shipped, and dangerous goods regulations adopted by competent authorities. For example, the United States of America has not officially incorporated the most recent edition of the UN Manual into their Code of Federal Regulations and therefore still recognizes the 7th Revised Edition of the UN Manual. The International Maritime Dangerous Goods (IMDG) Code provides for a one-year transition period for compliance with new IMDG Code requirements that essentially authorizes two different editions/amendments of the UN Manual at the same time. The ADR has a 6-month transition that, like the IMDG Code, authorizes two different editions/amendments of the UN Manual at one time. The International Civil Aviation Organization (ICAO) Technical Instructions immediately mandate the new edition/amendment of the UN Manual on 1 January of the applicable year. We also understand that some competent authorities authorize the use of a new edition/amendment as soon it is published.

5. Taken together, it is easy to see how there may be confusion over the applicable or “correct” edition/amendment of the UN Manual that must be placed in a TS. In some cases, our members have been challenged by freight forwarders and dangerous goods consultants who have questioned the validity of a TS simply because there is a difference of interpretation over what is the applicable edition/amendment of the UN Manual required in the TS. This issue is exponentially cumbersome when a TS covers multiple devices because the cell or battery that they contain may have been tested at different times to differing editions/amendments of the UN Manual. This confusion and inconsistent interpretations of the TS requirements defeats the purpose of the TS and frustrates rather than facilitates compliance with the lithium battery dangerous goods regulations.

6. The global nature of lithium cell and battery production and use and the exponential growth of the industry have heightened awareness of the TS requirements, which is a positive development. There is, however, this unfortunate confusion over the “correct” edition/amendment of the UN Manual that must be placed in the TS. Adding to this confusion, the language in 38.3.5 (j) is vague on the reference to the edition/amendments “used.” Some manufacturers have interpreted the word “used” to reference the edition/amendments in effect at the time the test was performed, while others reference the more recent editions/amendments that were “used” to verify continued compliance. It should be recognized that companies who are complying with the TS have taken the time to work with their cell and battery manufacturers and test labs to ensure the correct edition/amendment of the UN Manual is being used at the time that the cell or battery was tested. We therefore do not believe it provides any additional safety measure by requiring the edition/amendment of the UN Manual be included in the TS.

7. Section 2.9.4 (a) of the Model Regulations includes the following clarification on compliance with the UN 38.3 lithium battery tests:

“Cells and batteries manufactured to a type meeting the requirements of sub-section 38.3 of the UN Manual of Tests and Criteria, Revision 3, Amendment 1 or any subsequent revision and amendment applicable at the date of the type testing may continue to be transported, unless otherwise provided in these Regulations.”

It should therefore be sufficient to indicate on the TS that a cell or battery was tested according to the “UN Manual of Tests and Criteria, Revision 3, Amendment 1 or a subsequent revision”. In cases where a competent authority needs to know the exact

edition/amendment, they can request the test report since this authority already exists in 2.9.4 (e) (iv) of the Model Regulations where it is stated that “Test data shall be kept and made available to the competent authority upon request.”

Proposal

8. In 38.3.5 of the UN Manual of Tests and Criteria, replace existing paragraph (i) in the test summary as follows (new text is underlined, deleted text in strikethrough):

- “(i) ~~Reference to the revised edition of the Manual of Tests and Criteria used and to amendments thereto, if any~~ An indication that the cells or batteries were tested according to the Manual of Tests and Criteria, Revision 3, Amendment 1, or an applicable subsequent revision; and”.
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