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## Economic Commission for Europe

### Inland Transport Committee

#### Working Party on the Transport of Dangerous Goods

##### Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods

Geneva, 12-16 September 2022

Item 5 (a) of the provisional agenda

**Proposals for amendments to RID/ADR/ADN:  
pending issues**

### **Information on the transport category for damaged or defective lithium ion cells or batteries and lithium metal cells or batteries**

**Transmitted by the Government of Germany\* \*\***

#### **Introduction**

##### *Summary*

<b>Executive summary:</b>	Depending on the condition of a battery ("critical" or "non-critical"), different transport categories and packing instructions apply. The aim of the proposal is to close an information gap in the provision.
<b>Action to be taken:</b>	New differentiation in special provision 376 or inclusion of a new special provision: Classification in transport category 0 or 2 for the entry in the transport document in order to clearly identify which packing instruction is relevant and whether RID/ADR 1.1.3.6 is applicable.
<b>Related documents:</b>	ECE/TRANS/WP.15/AC.1/2022/1 ECE/TRANS/WP.15/AC.1/164, paragraph 40

1. For the carriage of damaged or defective lithium batteries, special provision 376 differentiates between batteries that are liable to react dangerously under normal conditions of carriage and damaged or defective batteries that are not prone to such a reaction. Depending on the condition of a battery ("critical" or "non-critical"), a different transport

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\* A/76/6 (Sect.20), para. 20.76.

\*\* Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2022/26.

category applies, which becomes relevant in the context of transport in accordance with RID/ADR 1.1.3.6. There are not yet any rules that ensure that the carrier receives information showing which transport category applies to the battery in question. This leads to difficulties in the transport chain, because although the consignor needs to assess and know the condition of the battery to choose the permitted packaging, there is no obligation to communicate the condition of the battery further in the transport chain, so the carrier does not know whether it is a battery that is expected to react dangerously during carriage and is therefore to be assigned to transport category 0, or whether it is a battery that is not expected to react dangerously under normal conditions of carriage and for which transport category 2 applies. Transport category 2 results from the table in 1.1.3.6. The different transport category 0 according to special provision 376 for critically defective batteries depends on the assessment of the condition of the battery and cannot be derived from the regulations.

2. Special provision 376 was taken over from the UN Model Regulations, but the establishment of transport category “0” for “critical” lithium batteries is only relevant for the application of exemptions in connection with quantities carried per transport unit (RID 1.1.3.1 (c) and RID/ADR 1.1.3.6) and is therefore only included in RID/ADR.

3. For the last session of the Joint Meeting, Germany therefore submitted document ECE/TRANS/WP.15/AC.1/2022/1, in which it was proposed to amend special provision 376 to include an obligation to indicate the transport category in the transport document. However, it emerged from the discussion that there was a clear preference to introduce a new special provision. This document therefore contains alternative proposals with a new special provision which would mean that information on the transport category must only be included in the transport document if transport category 0 is to apply by derogation from the table in 1.1.3.6. This can either be a reference to the new special provision (option 1) or the transport category can be indicated (option 2). Option 3 repeats the proposal from document ECE/TRANS/WP.15/AC.1/2022/1.

4. In ADN, the transport category is irrelevant, because the exemptions in connection with quantities carried per transport unit are structured differently from those in RID/ADR.

## Proposals to amend RID and ADR

### Option 1:

5. Introduce the following new special provision:

“**XXX** Cells and batteries which, in accordance with special provision 376, are identified as damaged or defective and liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of carriage, shall be assigned to transport category 0. The transport document shall include the following statement: “CARRIAGE IN ACCORDANCE WITH SPECIAL PROVISION XXX”.”

This new special provision XXX is added to column (6) of Table A in Chapter 3.2 for UN Nos. 3080, 3081, 3480 and 3481.

6. Consequential amendment: In special provision 376, delete the sentence "In both cases, the cells and batteries are assigned to transport category 0".

### Option 2:

7. Introduce the following new special provision:

“**XXX** Cells and batteries which, in accordance with special provision 376, are identified as damaged or defective and liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of carriage, shall be assigned to transport category 0. In the

transport document, the words “CARRIAGE IN ACCORDANCE WITH SPECIAL PROVISION 376” shall be supplemented by the words “TRANSPORT CATEGORY 0”.”

This new special provision XXX is added to column (6) of Table A in Chapter 3.2 for UN Nos. 3080, 3081, 3480 and 3481.

8. Consequential amendment: In special provision 376, delete the sentence "In both cases, the cells and batteries are assigned to transport category 0".

### Option 3:

9. Amend RID/ADR special provision 376 to read as follows (amendments are underlined):

“**376** Lithium ion cells or batteries and lithium metal cells or batteries identified as being damaged or defective such that they do not conform to the type tested according to the applicable provisions of the Manual of Tests and Criteria shall comply with the requirements of this special provision.

For the purposes of this special provision, these may include, but are not limited to:

- Cells or batteries identified as being defective for safety reasons;
- Cells or batteries that have leaked or vented;
- Cells or batteries that cannot be diagnosed prior to carriage; or
- Cells or batteries that have sustained physical or mechanical damage.

**NOTE:** In assessing a cell or battery as damaged or defective, an assessment or evaluation shall be performed based on safety criteria from the cell, battery or product manufacturer or by a technical expert with knowledge of the cell’s or battery’s safety features. An assessment or evaluation may include, but is not limited to, the following criteria:

- (a) Acute hazard, such as gas, fire, or electrolyte leaking;
- (b) The use or misuse of the cell or battery;
- (c) Signs of physical damage, such as deformation to cell or battery casing, or colours on the casing;
- (d) External and internal short circuit protection, such as voltage or isolation measures;
- (e) The condition of the cell or battery safety features; or
- (f) Damage to any internal safety components, such as the battery management system.

Cells and batteries shall be carried according to the provisions applicable to UN No. 3090, UN No. 3091, UN No. 3480 and No. UN 3481, except special provision 230 and as otherwise stated in this special provision.

Cells and batteries shall be packed in accordance with packing instructions P 908 of 4.1.4.1 or LP 904 of 4.1.4.3, as applicable.

Packages shall be marked “DAMAGED/DEFECTIVE LITHIUM-ION BATTERIES” or “DAMAGED/DEFECTIVE LITHIUM METAL BATTERIES”, as applicable.

The transport document shall include the following statement:

“TRANSPORT IN ACCORDANCE WITH SPECIAL PROVISION 376, TRANSPORT CATEGORY 2”.

Cells and batteries identified as damaged or defective and liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of carriage shall be packed and carried in accordance with packing instruction P 911 of 4.1.4.1 or LP 906 of 4.1.4.3, as applicable. Alternative packing and/or carriage conditions may be authorized by the competent authority of any RID Contracting State/Contracting Party to ADR/ADN who may also recognize an approval granted by the competent authority of a country which is not an RID Contracting State/not a Contracting Party to ADR/ADN, provided that this approval has been granted in accordance with the procedures applicable according to RID, ADR, ADN, the IMDG Code or the ICAO Technical Instructions. In both cases the cells and batteries are assigned to transport category 0.

Packages shall be marked “DAMAGED/DEFECTIVE LITHIUM-ION BATTERIES” or “DAMAGED/DEFECTIVE LITHIUM METAL BATTERIES”, as applicable.

The transport document shall include the following statement: “TRANSPORT IN ACCORDANCE WITH SPECIAL PROVISION 376, TRANSPORT CATEGORY 0”.

If applicable, a copy of the competent authority approval shall accompany the carriage.”

## **Proposal for an amendment to ADN**

10. In ADN special provision 376, delete the sentence "In both cases, the cells and batteries are assigned to transport category 0".

## **Justification**

11. The amendment could close an information gap in the provision for RID/ADR. If there is no differentiation between the transport categories, people cannot identify which packing instruction is to be applied and whether transport category 0 or 2 applies. However, providing this information is the only way to identify which packing instruction is applicable and whether RID/ADR 1.1.3.6, with the respective relaxations, is applicable.

12. The distinction between “critical” and “non-critical” damaged or defective lithium batteries is also relevant to the scope of application of the different packing instructions. If the Joint Meeting considers it useful to include information on this in the transport document, this has to be achieved by amending the UN Model Regulations.

13. In ADN, the reference to the transport category can be deleted, because this is not included in ADN. Column 15 does not appear in Table A of ADN.