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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**

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Item 5 (b) of the provisional agenda

Proposals for amendments to RID/ADR/ADN:

New proposals

**Orange-coloured plate marking required under 5.3.2 for the
carriage of radioactive material**

Transmitted by the Government of France^{1,2}

Summary

- Executive summary:** This proposal is intended to introduce into ADR, ADN and RID the requirement to mark the orange-coloured plates for all carriage of packaged radioactive material where the load corresponds to a single UN number (with no other dangerous goods), whether under exclusive use or not.
- Decision to be taken:** Amendment to 5.3.2.1.4 and 5.3.2.2.1 of ADR and ADN, and 5.3.2.1.1 of RID.

Introduction

1. In the event of an accident occurring during the carriage of radioactive material, the appropriate measures to be taken by the emergency services, whether in the form of safety areas, individual protection for those involved or extinguishers, depend greatly on the type of material being transported. It is therefore vital that the emergency services should have rapid access to detailed information on the load.
2. For instance, if an accident followed by a serious fire were to occur during the carriage of enriched uranium hexafluoride (UF₆), it would be important that the radius

¹ In accordance with the draft programme of work of the Inland Transport Committee for 2016-2017, (ECE/TRANS/WP.15/2015/19 (9.2)).

² Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2016/14.



of the exclusion zone set up by the emergency services be extended, appropriate protective gear and breathing devices be worn and water not be used to put out the fire if the packages were damaged, but, if the packages were not damaged, water should be used to achieve rapid cooling.

3. In such a situation, it would be very useful to have a UN number on the vehicle, particularly if the driver was not able to provide the emergency services with the relevant information or the transport document.

4. The orange-coloured plates required under 5.3.2 of ADR and ADN are either blank or marked with the hazard identification number and the appropriate UN number for the load. Under 5.3.2 of RID, the plates are systematically marked with the numbers, but do not have to be affixed on all wagons.

5. In 5.3.2.1.4, ADR and ADN provide that, for transport units and containers carrying packaged radioactive material with a single UN number under exclusive use and no other dangerous goods, the orange-coloured plates must bear the hazard identification number and the UN number.

6. Similarly, 5.3.2.1.1 of RID makes it obligatory to affix marked orange-coloured plates on the sides of wagons containing packaged radioactive material with a single UN number under exclusive use and no other dangerous goods.

7. Exclusive use applies only to the carriage of radioactive materials and is defined in 1.2.1 (a single consignor and all transport operations carried out in accordance with the directions of either the consignor or the consignee). In the 2015 editions of RID/ADR/ADN, that definition has been supplemented so that only carriage that is required to take place under exclusive use can be declared as exclusive use. This development considerably reduces the number of transport operations carried out under exclusive use and changes the situation in terms of marking, as it had been possible to send a consignment under exclusive use in order to improve the marking.

8. In the example given above (para. 2), there is no reason why carriage must take place under exclusive use. The orange-coloured plates would therefore be left blank. Consequently, if the packages containing UF₆ were hidden under a sheet (which is what happens in practice) and if the transport document was not available, the emergency services would not have any information about the content of the packages and could not take appropriate measures to cope with the significant radiological and chemical hazards presented by UF₆.

9. To facilitate the work of the emergency services in the case of an accident, we think a requirement should be introduced into RID/ADR/ADN that the orange-coloured plates be marked for all carriage of packaged radioactive material where the load corresponds to a single UN number (with no other dangerous goods), whether under exclusive use or not.

10. However, where packages with different UN numbers are loaded on the same conveyance, the carrier may have to change the orange-coloured plate several times during carriage. To avoid that situation, our proposal specifies that the orange-coloured plates have to be marked only if the transport unit or container contains packages that correspond to only one UN number throughout carriage.

11. Furthermore, the proposal does not contradict paragraph 572 of the IAEA Regulations for the Safe Transport of Radioactive Material (SSR-6).

Proposal

In 5.3.2.1.4 of ADR and ADN, replace the words:

“required to be carried under exclusive use and no other dangerous goods”

by the words:

“where the transport unit or container does not at any time during carriage contain radioactive material with a different UN number or another hazardous substance,” and delete the words “required to be carried under exclusive use”.

In the third paragraph of 5.3.2.2.1, delete the words:

“carried under exclusive use”.

In 5.3.2.1.1 of RID, replace the words:

“under exclusive use and no other dangerous goods”

by:

“where the wagon or container does not at any time during carriage contain radioactive material with a different UN number or another hazardous substance”.

Justification

Safety:	The proposed amendment is intended to improve the safety of the carriage of radioactive material by allowing the emergency services to take more appropriate measures in the case of an accident.
Feasibility:	All carriers of radioactive material are concerned by the proposed amendment. However, the cost to carriers will be limited. The proposal may require them to purchase a set of orange-coloured plates.
Enforceability:	The application of the amendment could be monitored through inspections of conveyances carrying radioactive material.

Text with amendments highlighted

ADR and ADN:

5.3.2.1.4	When a hazard identification number is indicated in Column (20) of Table A of Chapter 3.2, transport units and containers carrying unpackaged solids or articles or packaged radioactive material with a single UN number, <u>where the transport unit or container does not at any time during carriage contain radioactive material with a different UN number or another hazardous substance,</u> required to be carried under exclusive use and no other dangerous goods shall in addition display on the sides of each transport unit or container, clearly visible and parallel to the longitudinal axis of the vehicle, orange-coloured plates identical with those prescribed in 5.3.2.1.1. These orange-coloured plates shall bear the hazard identification number and the UN number prescribed respectively in Columns (20) and
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(1) of table A of Chapter 3.2 for each of the substances carried in bulk in the transport unit or in the container or for the packaged radioactive material ~~when required to be carried under exclusive use~~ in the transport unit or in the container.

5.3.2.2.1

Third paragraph

When reduced dimensions of orange-coloured plates are used for packaged radioactive material ~~carried under exclusive use~~, only the UN number is required and the size of the digits stipulated in 5.3.2.2.2 may be reduced to 65 mm in height and 10 mm in stroke thickness.

RID:

5.3.2.1.1

A rectangular, orange-coloured plate conforming to 5.3.2.2.1, and so as to be clearly visible, shall be affixed on each side of a

- tank-wagon,
- battery-wagon,
- wagon with demountable tanks,
- tank-container,
- MEGC,
- portable tank,
- wagon for carriage in bulk,
- small or large container for carriage in bulk,

– wagons and containers carrying packaged radioactive material with a single UN number ~~under exclusive use and no other dangerous goods~~ where the wagon or container does not at any time during carriage contain radioactive material with a different UN number or another hazardous substance.

used for the carriage of goods for which a hazard identification number is given in column (20) of Table A of Chapter 3.2.