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Proposals for amendments to RID/ADR/ADN: New proposals

Definition of nominal capacity of the receptacle

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

Summary

Executive summary:	The definition of “nominal capacity of the receptacle” for liquids in relation to the calculation of the exemption limits in 1.1.3.6 poses difficulties in its application. It is proposed to clarify the situation for liquids by including a reference to the actual quantity of dangerous goods carried.
Action to be taken:	Amend the last indent of 1.1.3.6.3 and the definition of “nominal capacity of the receptacle”.
Related documents:	TRANS/WP.15/R.361, TRANS/WP.15/R.364, TRANS/WP.15/R.384, para. 19 (a), TRANS/WP.15/R.361/Rev.1, INF.3 submitted to WP.15 at its sixty-first session, TRANS/WP.15/1997/19. Multilateral Agreement M238, ECE/TRANS/WP.15/AC.1/2011/2, informal document INF.8 of the ninety-first session of WP.15, ECE/TRANS/WP.15/AC.1/2011/39.

¹ In accordance with the programme of work of the Inland Transport Committee for 2010–2014 (ECE/TRANS/208, para. 106, and ECE/TRANS/2010/8, programme activity 02.7 (c)).

² Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under symbol OTIF/RID/RC/2013/17.

Introduction

1. For liquids, the interpretation of the definition of “nominal capacity of the receptacle” in relation to the exemption limits in 1.1.3.6.3 remains controversial among the participants. Both industry and the services responsible for carrying out checks during the journey have problems applying this definition in practice as it is difficult to verify and subject to different interpretations.

2. This definition was incorporated into marginal 10 011 (2) of ADR in 1999. This was the outcome of the deliberations of a working group initiated by the United Kingdom.

3. The initial proposal, made by the United Kingdom in document TRANS/WP.15/R.361 of 11 August 1995, consisted of taking into account only the nominal capacity of receptacles – in the proper sense of the term, however, where:

“The term ‘nominal capacity’ of a receptacle means the maximum volume, measured in litres, of dangerous goods which the receptacle is designed to contain and in any case shall be not less than 80% of its water capacity when empty”.

This definition is consistent with the principle explained in the document that the capacity specified by the manufacturer should be the reference – for instance, drum capacity of 10 litres, 20 litres, and so on. The reference to 80% thus makes sense to the extent that it is probably the most widespread practice. The document was discussed by a working group in London, in February 1996, and according to its report (TRANS/WP.15/R.384, para. 19 (a)), the proposed use of nominal capacity for liquids and compressed gases (as defined in the proposal) was adopted.

4. Surprisingly though, the proposed text submitted by the United Kingdom to WP.15 at its next session (TRANS/WP.15/R.361/Rev.1), which should have reflected the outcome of the deliberations of the informal working group as summarized in R.384, contains a different definition, which reads:

The term “nominal capacity” of a receptacle means the nominal volume, measured in litres, of dangerous goods which the receptacle contains, but which in any case shall be not less than 80% of its water capacity when empty. For compressed gas receptacles, this will be equivalent to the water capacity.

It is therefore possible that, notwithstanding the contents of the report, discussions held on the above definition during the meeting of the informal working group led to this change.

5. In informal document INF.3 submitted to WP.15 at its sixty-first session, AISE complained that the consignor would have to provide the “nominal quantity” (actual quantity) in the transport documentation for the consignee, and inform the carrier of the quantity equivalent to 80% of the water capacity of the receptacle when it is filled to less than 80% of its capacity. It thus appears that industry understood the definition to mean that the highest of the two values should be used, namely actual volume content (nominal volume) or 80% of the water capacity – neither of which is usually referred to as nominal capacity, which was properly defined in the initial proposal by the United Kingdom.

In informal document INF.3, AISE proposed not to refer to nominal capacity but to use only the net volume in litres. This proposal was not accepted. Accordingly, it may be concluded that WP.15 referred to “nominal quantity” as the nominal capacity of the receptacle as defined by the manufacturer, rather than to the actual product content.

6. At the sixty-second session of WP.15, AISE proposed not to refer to nominal capacity, but to nominal quantity, for liquids, which it defined as follows: “either the marked contents in litres or in kilograms, or if not marked, the normal volume of the receptacle” (TRANS/WP.15/R.434). This proposal was rejected.

7. Lastly, at the sixty-third session of WP.15, CEPE proposed to delete the words “but which in any case shall not be less than 80% of its water capacity when empty” (TRANS/WP.15/1997/19).

CEPE provided the example of three drums with a nominal capacity of 10 litres (as defined by the manufacturer) and internal volumes of 14, 13.2 and 13 litres, respectively, actually filled with 8 litres of product.

The rationale provided by CEPE highlighted the problems arising from the reference to 80% of the water capacity — which is not actually known — but also from the use of a value that is not the same as that declared in the transport documentation.

It emerges from this reasoning that nominal capacity in the examples quoted in the document is 10 litres according to the standard terminology in use, but 8 litres based on the definition in ADR.

The proposal was accepted by WP.15, thereby resulting in the current version of the text, which could be interpreted as the endorsement of the proposal made by AISE in informal document INF.3 of the sixty-first session of the Working Party since nominal volume is the net volume at 20° C.

8. It would have been simpler to use the terminology of 5.4.1.1, but the problem was that WP.15 did not agree to specify mass in the case of liquids. That would have been the simplest solution, first, because the label usually displays the nominal quantity, either in mass or volume, and second, because the nominal volume of a package is not an absolute value. It depends on the product, as some products are filled so that reagents can be added up to the level of the receptacle’s nominal capacity, or up to the filling level determined by the filler, while at the same time complying with regulations (for instance, if it is necessary to leave an ullage for a particular product). Except in the case of measuring containers, nominal capacity is not displayed on the packaging.

9. Lastly, the problems raised by CEPE regarding the discrepancy between the requirements of multimodal transport and the exemptions in 1.1.3.6, the impossibility of knowing at the end of the transport chain — at the distribution stage — the nominal capacity of receptacles on the basis of multimodal transport documentation, the problems that the inspection services circumvent by interpreting this capacity as the actual quantity of liquid in the receptacle, and the adoption at the sixty-third session of WP.15 of the approach taken by CEPE, all suggest that it is not necessary to define the nominal capacity of the receptacle for liquids in relation to 1.1.3.6 and that it would be appropriate to use the information contained in the transport document as defined in 5.4.1.1 to perform the calculation in accordance with 1.1.3.6.3.

Proposal

10. Amend the last indent of 1.1.3.6.3 as follows:

- “• For liquids, the total quantity of dangerous goods in accordance with 5.4.1.1.1 (f);
- For liquefied gases, nominal capacity of the receptacle (see definition in 1.2.1) in litres.”

In 1.2.1, under the definition of “nominal capacity of the recipient”, delete “means the nominal volume of the dangerous substance contained in the receptacle expressed in litres.”.