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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**

Bern, 12–16 March 2018

Item 2 of the provisional agenda

**Tanks****Application of standard EN 13094:2015 to gravity-discharge  
tanks****Transmitted by the Government of France\****Summary*

- Executive summary:** Facilitate the application of standard EN 13094:2015 to gravity discharge tanks to reflect the amendments to RID/ADR
- Action to be taken:** Adopt a guide to the application of EN 13094:2015
- Reference documents:** RID/ADR, Chapter 1.2, paragraphs 6.8.2.1.14 and 6.8.2.4.1

**Introduction**

1. In accordance with the table in 6.8.2.6.1, standard EN 13094:2015 is applicable to the design and construction of metallic tanks with a working pressure not exceeding 0.5 bar.
2. In 2017, RID/ADR introduced amendments concerning these tanks, in particular by specifying in Chapter 1.2 in the definition of “Maximum working pressure” that this concept “is not applicable to gravity-discharge tanks according to 6.8.2.1.14 (a)” (see note 1 to the definition).
3. The CEN/TC 296 Technical Committee responsible for standardizing tanks for the transport of dangerous goods undertook the revision of this standard but was unable to finalize it in time for its reference to be considered for RID/ADR 2019.

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\* In accordance with the programme of work of the Inland Transport Committee for 2017–2018 (ECE/TRANS/WP.15/237, annex V (9.2.)).



4. While it is clear that the provisions of RID/ADR prevail if there is a conflict between them and the standard, doing away with the concept of maximum working pressure does not facilitate the application of standard EN 13094, and we therefore find it important to specify the amendments necessary to avoid difficulties in the interpretation or use of this standard.
5. The following amendments could be included in a guide to the application of this standard that could appear on the ECE and OTIF websites pending its revision.

## Proposal

The European standard EN 13094 specifies requirements the design and construction of metallic gravity-discharge tanks for the transport of substances with a vapour pressure not exceeding 110 kPa (absolute pressure) for which a tank code with the letter “G” is given in Chapter 3.2 of RID/ADR.

In order to comply with the requirements of RID/ADR, the following amendments to EN 13094:2015 must be made.

### 1. Amendment of 3.1, Terms and definitions

*Delete the definition of maximum working pressure in 3.1.4.*

### 2. Amendment of 6.4, Dynamic conditions

*In the first paragraph of 6.4.2, replace “maximum working pressure ( $P_v$  or  $P_{ts}$ )” with “highest value of  $P_{ta}$  or  $P_{ts}$ ” where  $P_{ta}$  is the static (gauge) pressure in megapascals (MPa).*

### 3. Amendment of 6.5, Pressure conditions

#### 3.1 Amendment of 6.5.1

*Delete “(c) 1.3 times the maximum working pressure”.*

#### 3.2 Amendment of 6.5.2

*Replace “ $1.3 \times (P_{ta} + P_{ts})$ ” with “ $\max(0.2; 1.3 \times P_{ta\text{ water}}; 1.3 \times P_{ta})$ ”.*

### 4. Amendment of annex A, A.5 Calculation method — Worksheet

#### 4.1 Amendment of A.5.2.2.1, Table A.2, Pressures

*Replace No. 2 “Maximum working pressure<sup>b</sup>,  $P_{ms}$ ” with “Opening pressure of the breather device,  $P_{ts}$ ”.*

*Delete “<sup>b</sup>  $P_{ms}$  is the maximum of  $P_{vd}$ ,  $P_{ts}$ ,  $P_d$  and  $P_r$ ”.*

#### 4.2 Amendment of A.5.2.2.2, Table A.3, Calculation pressure in service conditions

*In 4, 5, 6 and 7, replace “ $P_{ms}$ ” with “ $P_{ts}$ ”.*

#### 4.3 Amendment of 5.6.2.1.2, Tensile stress due to pressure during transport

*In (a) Force, replace “ $P_{ms}$ ” with “ $P_{ts}$ ”.*