

## 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

3 February 2016

Bern, 14–18 March 2016

Item 2 of the provisional agenda

#### Tanks

### Pressure setting of safety valves, nominal pressure for rupture discs and general requirements for safety valves on tanks

Transmitted by the Government of the Netherlands

#### Introduction

1. In the case a safety valve is used on an hermitically closed tank the “arrangement” of the bursting disc and safety valve is to the “satisfaction” of the competent authority. In practice the competent authority will prescribe the pressures used in Chapter 6.7. This is practical because these arrangements are proven and the information for this equipment is widely available. To prevent intervention of competent authorities and foster harmonisation it is proposed to introduce the pressure values of Chapter 6.7 in subsection 6.8.2.2.10.
2. Compared to Chapter 6.7 general requirements on safety valves in Chapter 6.8 are very limited. To complete the requirements for safety valves additional wording is proposed based on the wording used in Chapter 6.7.

#### Proposal

3. Introduce a new first paragraph to 6.8.2.2.10 and modify the existing wording to read: (new wording in *italic script*, deleted wording ~~stricken~~ through)

6.8.2.2.10 *Safety valves shall be spring loaded and be designed to prevent the entry of foreign matter, the development of any dangerous excess pressure and the leakage of liquid and gas.*

*The safety valves shall open automatically at a pressure not less than the maximum working pressure and shall be fully open at a pressure equal to 110% of the maximum working pressure. These valves shall after discharge, close at a pressure not lower than 10% below the pressure at which discharge starts and shall remain closed at all lower pressures. The safety valve shall be of a type that will resist dynamic forces including liquid surge.*

If tanks required to be hermetically closed are equipped with safety valves, these shall be preceded by a bursting disc and the following conditions shall be observed:

*The bursting disc shall rupture at a nominal pressure 10% above the start to discharge pressure of the safety valve. ~~The arrangement of the bursting disc and safety valve shall be such as to satisfy the competent authority.~~ A pressure gauge or other suitable indicator shall be provided in the space between the bursting disc and the safety valve, to enable detection of any rupture, perforation or leakage of the disc ~~which may disrupt the action of the safety valve [could cause a malfunction of the pressure relief system.]~~*

## Justification

4. The general requirements are based on the existing wording for pressure- relief devices in 6.7.2.8.1 and 6.7.3.7.1.

The pressure at which the bursting disc shall rupture is nominal, in other words the rating given on the label of the disc, it shall not be tested. 10% above the start to discharge pressure of the safety valve is already applied in practice for tanks that are intended to be transported by sea.

5. The final wording is deleted because the pressure gauge shall not read a pressure without giving an opportunity for discussion that reading a pressure may lead to “disruption” of the safety valve or not.

6. It is expected that all safety valves and rupture discs comply and that for this reason no transitional measure is needed. Cost for implementing are to be considered low.

---