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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

3 March 2023

Bern, 20-24 March 2023

Item 2 of the provisional agenda

**Tanks**

### **Actual holding time of tanks for refrigerated liquefied gases**

**Transmitted by the Government of the Netherlands**

#### **Introduction**

1. In recent years several incidents occurred in the Netherlands where the pressure relief valve of cryogenic tanks was activated. These incidents have severe consequences in disrupting society. Therefore, the Inspectorate for Human Environment and Transport started in the Netherlands an investigation on these occurrences in particular as the dangerous goods regulations contained conditions to prevent these premature opening of valves.
2. Conclusions of the investigation:
  - In most of the cases an actual holding time was not calculated for tank-containers and portable tanks, and that was also noticed during regular inspections;
  - Incorrect data was used for the calculation;
  - Incorrect calculations were made;
  - Lack of harmonized and approved calculation procedures (4.2.3.7.1);
  - Not taking into account degradation of the vacuum of the tank;
  - Not measuring the actual vacuum value of tanks at inspections;
  - Lack of go/no-go criteria for the value of the measured vacuum of tanks at inspections;
  - Loss of vacuum of tanks.

#### **Questions**

3. The Netherlands seeks the reaction of other Contracting Parties/States on the following questions:
  - Have other Contracting Parties/States the same experiences as the Netherlands?
  - Have Contracting Parties/States approved procedures according to 4.2.3.7.1?
  - How are tanks tested for vacuum value and which go/no-go values are applied?
  - Are there new technologies available to predict imminent activation of the relief valves by a decrease of insulation by a lower vacuum?
  - Shall an exemption for tank-containers/portable tanks be considered if used for (road) distribution transport of short duration (like for tank-vehicles) if accompanied by the driver?

## Background

4. It is felt that the procedures for the calculation of the actual holding time are insufficiently introduced. Partly by missing information and procedures on how to calculate and control the state of insulation (vacuum).

5. The investigation learned that approved procedures by competent authorities are difficult to find, if they exist at all. Furthermore, the information used was in some cases incorrect.

6. From users and manufacturers, it was learned that vacuum was not always measured at the prescribed inspections. On the other hand, if the value of vacuum would be measured the range in which it was still acceptable was not always known as well as the effect of a reduced vacuum on the holding time.

7. It is realized that it also involves portable tanks for which the ECOSOC TDG Sub-Committee is responsible. It was felt that a discussion in the Tanks Working Group of the Joint Meeting RID/ADR/ADN would be helpful in developing a position on this issue.

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