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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**

Geneva, 9-13 September 2024

Item 2 of the provisional agenda

**Tanks****Heating equipment on tanks****Transmitted by the Government of Germany\*, \*\****Summary*

- Explanatory summary:** 6.7.2.5.12 to 6.7.2.5.15 of RID/ADR contain requirements for heating systems and their electrical equipment for portable tanks. In contrast, Chapter 6.8 of RID/ADR does not contain any such requirements. To avoid ambiguities in the assessment and inspection of heating equipment, for example in the context of the tank type approval, and for reasons of harmonisation, the relevant provisions of Chapter 6.7 should also be included in Chapter 6.8 of RID/ADR.
- Decision to be taken:** Include provisions concerning heating systems in Chapter 6.8 of RID/ADR.
- Related documents:** –

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\* A/78/6 (Sect. 20), table 20.5.

\*\* Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2024/40.



## Introduction

1. Tanks in accordance with Chapter 6.8 of RID/ADR are fitted with heating equipment to heat the dangerous goods. Many of these heating devices are operated externally. The dangerous goods are heated with hot water steam via a piping system, which is usually installed between the shell and the outer insulation.
2. In some cases, however, heating equipment is also installed on fixed tanks (tank-vehicles), demountable tanks and tank-containers, which operate with their own combustion heater. In these cases, a liquid is heated and pumped through a pipe system, as with externally operated tank heaters, in order to heat the dangerous goods or keep them at a certain temperature. These combustion heaters usually run on diesel. There are different designs of such heating equipment. Some are operated independently with their own power supply and others via the tractive vehicle's power supply.
3. There are also purely electrical heating devices.
4. According to 1.2.1 of RID/ADR, the heating equipment is part of the tank's service equipment. However, 6.8.2.2 of RID/ADR concerning tank equipment does not list any special requirements for heating equipment. The relevant provisions for electrical equipment in accordance with 9.2.2 and 9.7.8 of ADR would only have to be taken into account for vehicles. For portable tanks though, 6.7.2.5.12 to 6.7.2.5.15 contain detailed provisions for heating systems. As Chapter 6.8 does not contain any detailed provisions on heating equipment, ambiguities arise when assessing and inspecting this heating equipment, e.g. in connection with the tank type approval.
5. To avoid ambiguities in the assessment and inspection of such heating equipment, minimum requirements for equipping tanks should be included in 6.8.2.2 of RID/ADR. To resolve the problem and for reasons of harmonisation with the UN *Model Regulations*, it is proposed that the corresponding provisions in the UN *Model Regulations* (6.7.2.5.12 to 6.7.2.5.15) also be carried over into Chapter 6.8 of RID/ADR.

## I. Proposal

6. Insert the following paragraphs in Chapter 6.8 of RID/ADR:

**6.8.2.2.12** The heating system shall be designed or controlled so that a substance cannot reach a temperature at which the pressure in the tank exceeds its MAWP or causes other hazards (e.g. dangerous thermal decomposition).

**6.8.2.2.13** The heating system shall be designed or controlled so that power for internal heating elements shall not be available unless the heating elements are completely submerged. The temperature at the surface of the heating elements for internal heating equipment, or the temperature at the shell for external heating equipment shall, in no case, exceed 80% of the autoignition temperature (in °C) of the substance carried.

**6.8.2.2.14** If an electrical heating system is installed inside the tank, it shall be equipped with an earth leakage circuit breaker with a releasing current of less than 100 mA.

**6.8.2.2.15** Electrical switch cabinets mounted to tanks shall not have a direct connection to the tank interior and shall provide protection of at least the equivalent of type IP 56 according to IEC 144 or IEC 529."

7. Insert the following transitional measures in Chapter 1.6:

(RID:)

**1.6.3.xx** Tank-wagons constructed before 1 January 2029 in accordance with the requirements in force up to 31 December 2028 but which do not, however, conform to the requirements of 6.8.2.2.12 to 6.8.2.2.15 applicable as from 1 January 2027 may still be used."

(ADR:)

“**1.6.3.xx** Fixed tanks (tank-vehicles) and demountable tanks constructed before 1 January 2029 in accordance with the requirements in force up to 31 December 2028 but which do not, however, conform to the requirements of 6.8.2.2.12 to 6.8.2.2.15 applicable as from 1 January 2027 may still be used.”

(RID/ADR:)

“**1.6.4.xx** Tank-containers constructed before 1 January 2029 in accordance with the requirements in force up to 31 December 2028 but which do not, however, conform to the requirements of 6.8.2.2.12 to 6.8.2.2.15 applicable as from 1 January 2027 may still be used.”

## II. Justification

8. The inclusion of provisions on heating systems in Chapter 6.8 would enable these systems to be uniformly assessed and would therefore avoid ambiguities in terms of the permissibility and inspection of heating systems. This would also harmonise with the provisions on heating systems for portable tanks.

9. This proposal supports Sustainable Development Goal 8 “*Decent work and economic growth*”.

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