



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 5 (b) of the provisional agenda

**Proposals for amendments to RID/ADR/ADN:
new proposals****Carriage of stationary pressure vessels that are constructed
to a design code recognised by a national competent authority****Transmitted by the European Cylinder Makers Association (ECMA)*,******Introduction**

1. At the March 2024 session of the Joint Meeting, ECMA presented document ECE/TRANS/WP.15/AC.1/2024/20. This document incorporates comments received during the meeting and also subsequent to the meeting.
2. Stationary pressure vessels for the storage of high-pressure gases at fixed locations have historically been metallic pressure vessels that could be of a seamless or welded construction. Today there are stationary pressure vessels that can have a non-metallic liner with a composite material overwrap. These pressure vessels are not constructed to standards referenced in the RID/ADR.
3. One of the main reasons to use stationary pressure vessels of a composite construction is to have a lower weight when installed, for example, on the roof of a building.
4. Due to the nature of the construction of these stationary pressure vessels there are additional requirements that need to be applied when the pressure vessels are carried for assembly, periodic inspection, maintenance or disposal. Some designs of composite pressure vessels require a minimum pressure be maintained during carriage and this could be at least five bar and possibly up to 20 bar. The reason for this is to ensure that the liner of the pressure vessel does not separate from the wrapping during carriage.
5. To maintain the integrity of these pressure vessels they would be carried with one of the following three gases: UN 1002 AIR, COMPRESSED, UN 1066 NITROGEN, COMPRESSED or UN 1956 COMPRESSED GAS, N.O.S. The reason why UN 1956 is included is because it is possible that a pressure vessel has been tested using a mixture of

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

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nitrogen and hydrogen and whilst the pressure vessel has been evacuated and filled with nitrogen as there could be small traces of remaining hydrogen.

6. These stationary pressure vessels are not intended to be used for the carriage of gases.
7. The stationary pressure vessels are constructed to design codes recognised by the competent authority of a Contracting Party of ADR or RID Contracting State.
8. The exemptions related to the carriage of gases (see 1.1.3.2 (c)) have a limit of 200 kPa (2 bar) and it is considered that to increase this pressure would not be practical as it could exempt the carriage of many gases from the regulations.

I. Proposal

9. To be able to move stationary pressure vessels that are constructed to a design code recognised by the competent authority of a Contracting Party of ADR or RID Contracting State with UN 1002 AIR, COMPRESSED or UN 1066 NITROGEN, COMPRESSED or UN 1956 COMPRESSED GAS, N.O.S. a new special provision is proposed as follows:

"xxx Stationary pressure vessels not intended for the carriage of dangerous goods and made to design codes recognised by the competent authority of a RID Contracting State/a Contracting Party of ADR may be carried for the purpose of assembly, periodic inspection, maintenance or disposal with up to 20 bar of UN 1002 AIR, COMPRESSED, UN 1066 NITROGEN, COMPRESSED or UN 1956 COMPRESSED, GAS, N.O.S. provided each pressure vessel is marked in accordance with 5.2.1 and labelled in accordance with 5.2.2.

Closures of pressure vessels shall be protected during carriage.

The transport document shall include the following statement: "Carriage in accordance with special provision xxx".

10. In Chapter 3.2, Table A, for UN Nos. 1002, 1066 and 1956, insert "xxx" in column (6).

II. Justification

11. This special provision will permit the carriage of pressure vessels constructed in accordance with a design code recognised by the competent authority of a Contracting Party of ADR or RID Contracting State to be carried for the purpose of assembly, periodic inspection, maintenance or disposal whilst containing either UN 1002 AIR, COMPRESSED or UN 1066 NITROGEN, COMPRESSED or UN 1956 COMPRESSED GAS, N.O.S.

12. This proposal contributes to the following United Nations Sustainable Development Goals 7, *Affordable and Clean energy*, 9, *Industry, Innovation and Infrastructure* and 13, *Climate action*.

III. Safety implications

13. No negative safety implications are to be expected as this proposal will ensure that stationary pressures of composite construction are correctly classified and labelled when carried for the purpose of installation, periodic inspection, maintenance or disposal.
