

## Economic Commission for Europe

### Inland Transport Committee

Working Party on the Transport of Dangerous Goods

11 March 2024

Joint Meeting of the RID Committee of Experts and the  
Working Party on the Transport of Dangerous Goods

Bern, 25-28 March 2024

Item 5 (b) of the provisional agenda:

**Proposal for amendments to RID/ADR/ADN:**

**New proposal**

### **Comments on document ECE/TRANS/WP.15/AC.1/2024/19 from ECMA - Pressure receptacles that are constructed in accordance with EN 17339**

#### **Transmitted by the Government of France**

1. We recognize the issue mentioned in the document from ECMA concerning the carriage of pressure receptacle for hydrogen that require to always be under a minimal pressure (from 5 to 20 bar depending on the design) in order to ensure that the liner of the pressure receptacle does not separate from the wrapping. We welcome the proposal in principle. In France the authorities had to grant derogations to allow some carriage of similar receptacles.

2. However we believe that the proposal in the document from ECMA does not cover all the issues related to the use of receptacles with such liners and other receptacles used for hydrogen. And we would like to raise some additional issues, based on cases we had to deal with, taking into account the increasing development of the use of hydrogen as an alternative fuel:

(a) Some of those pressure receptacles, before being approved have to be carried as samples for testing. In this case they are not yet approved, but for the reason explained they have to contain a certain quantity of gas. It is not clear that the new special provision takes care of that specific case. Although not very frequent we believe that this case should be clearly covered.

(b) Moreover, some stationary systems contain pressure receptacles not manufactured according to Chapter 6.2 that are also using such liners (e.g. stationary systems used for the delivery of hydrogen to refuel vehicles or for other purposes). They have to be carried for delivery or for maintenance operations. They could be carried empty of gas and not be subject to RID/ADR/ADN, but in this case, for the reason explained by ECMA related to this specific liner, they have to be carried containing gas at a specified pressure (as defined by the manufacturer from 5 to 20 bars). As they are not in conformity with the construction requirements for portable pressure receptacles, this would require some special provisions or exemptions.

(c) Some of these receptacles are part of hydrogen dispensing stations that can be considered as articles (UN 3537). In some cases, the complete stations are carried to their place of use. They contain the receptacles (static pressure equipment) and other devices. As the gas ensuring the minimal pressure for integrity of the liner cannot be removed for the purpose of carriage the stations can be considered as articles containing dangerous goods because they fulfil 2.1.5.1 of RID/ADR/ADN. But only at the condition that the quantity of

gas does not exceed the quantity that is necessary to ensure the pressure, in order to fulfil the second paragraph of 2.1.5.1. Is this clear enough based on the current text in 2.1.5.1, or would some clarification be necessary, in particular to ensure that the pressure is strictly limited to the necessary?

(d) We have been made aware that in some cases the hydrogen contained in receptacles may not be replaced by another gas to ensure the integrity of the fuel cells. Indeed even a small quantity of nitrogen is liable to create damage to the fuel cells and further safety issues when using the vehicles. The process for completely eliminating nitrogen requires several cycling that could create fatigue in the receptacle and is not easy to perform at the stations place outside a specific industrial site, as a consequence it also rejects a lot of hydrogen in the atmosphere which should be avoided.

Furthermore this specific issue related to the purity of hydrogen is also concerning receptacles without that specific liner but they would be carried at a much lower pressure when containing hydrogen (1 or 2 bars).

3. Does any other delegation have knowledge of similar cases? Are we ready to allow the use of hydrogen to ensure the pressure and at which condition?

4. We would be very grateful for any comments from delegations that had to face similar issues in order to help the Joint Meeting to define the best way forward.

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