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Item 2 of the provisional agenda

Tanks

Changes to the type approval and, in particular, the replacement of pieces of equipment in the context of maintenance

Transmitted by the International Union of Wagon Keepers (UIP)*, **

I. Description of the problem

1. When tanks are being built in accordance with a valid type approval, and later in the course of a tank's service life, there are various reasons for minor changes to this valid type approval, which usually affect the tank equipment.
2. In terms of maintenance, i.e. after the initial inspection, some pieces of equipment need to be replaced, mostly the second stop valve as a result of wear and tear, leakage or other damage.
3. If the same valve is not available from stock, it must first be procured or, if it is no longer available, a new discharge valve, often with a different type designation, must be fitted.
4. The country-specific rules on permissible changes that often exist in this case have been included in standard EN 12972 on the testing, inspection and marking of tanks. This standard is referenced in RID/ADR and it says:

"4.2 Inspection for type approval

4.2.1 General

*The inspection for type approval shall be carried out on a prototype tank of either a single tank or a range of tanks. A type approval which includes a limited variation of the design will allow **the following variations to the design without requiring a new approval**, if there are no other conflicting technical or legal requirements:*

* 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/2024/34.



- a decrease in the initial design temperature range;
- a decrease in the maximum gross mass;
- a reduction in volume;
- movement or modification of nozzles and manholes provided that the same level of protection is afforded and the strength calculation takes into account the most unfavourable case;
- a decrease in the number of nozzles;
- an increase of the number of surge plates and baffles;
- an increase of the shell thickness(es) provided the same welding procedures are used;
- for pressure tanks, a decrease of the maximum working pressure;
- an increase in the thickness of the insulation used for additional protection;
- an increase in the effectiveness of the thermal insulation of the tank;
- **the use of alternative service equipment if there is no change in the technical specification of the equipment and it is placed in the same location."**

5. Although, as part of the maintenance, many inspection bodies use this interpretation of the replacement of valves as part of an extraordinary inspection, in accordance with this standard, without involving the approval body, there are always questions and ambiguities in this respect. This is particularly the case because, with regard to changes to a type approval, RID/ADR 6.8.2.3.3 states the following: *"The limited variations shall be clearly described in the type approval certificate."*

6. The current text of RID/ADR therefore contradicts the rules of the standard referred to, both with regard to limited variations during the serial construction of tanks, and in particular with regard to the procurement of replacements in the context of maintenance.

7. In order to achieve an identical interpretation by all parties involved and to harmonise the procedures, UIP proposes to deal with the process in the RID/ADR and to remove the contradictions between the standard and the text of RID/ADR.

II. Proposal

8. The following proposal would resolve the current conflict between the standard and the text of RID/ADR with regard to limited changes, i.e. during new construction (e.g. smaller nozzle dimensions) or during maintenance (e.g. replacement of valves), without jeopardising safety:

“6.8.2.3.3 Amend the second paragraph to read as follows (deleted text is crossed out, new text is shown in bold):

"A type approval may however serve for the approval of tanks with limited variations of the design that either reduce the loads and stresses on the tanks (e.g. reduced pressure, reduced mass, reduced volume) or increase the safety of the structure (~~e.g. increased shell thickness, more surge plates, decreased diameter of openings~~). **The limited variations shall be clearly described in the type approval certificate or which are equivalent with regard to the equipment (see standard EN 12972, paragraph 4.2). The limited changes shall be documented in the inspection body's certificate and included in the tank record."**

III. Assessment

9. The proposal would remove the conflict that exists between the standard and the regulations and would allow the inspection body to make certain variations that do not jeopardise safety, even during construction in accordance with the valid approval.

10. Such solutions are currently implemented on the basis of standard EN 12972 and have also been introduced nationally, e.g. in Germany, and have been tried and tested operationally. As the changes/variants are minor and achieve the same or a higher level of safety, and as an inspection body must also be involved, safety is not jeopardised.
