

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

4 September 2023

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

Geneva, 19–27 September 2023

Item 2 of the provisional agenda:

Tanks

Dual approved intermodal RID/ADR 6.8 and UN portable tanks

Transmitted by the International Tank Container Organisation (ITCO)

Summary

Executive summary:	<p>Intermodal tanks approved to both RID/ADR 6.8 and UN portable tanks operate entirely safely and have done so for many years even before the introduction of UN portable tanks in 2002, when intermodal tanks were approved to IMO 1, 2, 4 and 5 and RID/ADR 6.8.</p> <p>Conforming to the requirements of multiple regulatory approvals is crucial to operating the intermodal tank established model of safety and sustainability in international markets.</p> <p>Rescinding existing approval to RID/ADR 6.8 would cause significant hinderance to intermodal trade. Industry costs to modify an estimated 800,000 tanks is estimated to exceed 48m Euro. The cost to operators and shippers' procedures and training would add to the burden.</p> <p>Safety of construction and operation is never compromised. Indeed, safety is enhanced by multiple regulations. No safety incidents have been reported.</p> <p>The related documents refer to difficulties presented by dual approval and problems in terms of approval, approval numbers, control, use, marking and tank type identification. However, no specific evidence has been presented and intermodal tank operators do not recognise these issues in practice.</p> <p>ITCO wishes to understand the difficulties experienced by interested parties and assist in establishing a practical resolution.</p>
Action to be taken	Continue the establish practice of dual RID/ADR 6.8 approval to intermodal UN portable tanks
Related documents:	<p>ECE/TRANS/WP.15/AC.1/2023/46 (France). Report of the Joint Meeting on its spring 2023 session ECE/TRANS/WP.15/AC.1/168 INF. 33 (France) Spring 2023 session</p>

Introduction

1. We refer to ECE/TRANS/WP.15/AC.1/2023/46 submitted by France to the Autumn 2023 session and the proposal to rescind RID/ADR 6.8 approval to intermodal UN portable tanks or vice versa.
2. We also refer to the Report of the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods (WP.15/AC.1) on its spring 2023 session. In the report on the Working Group on Tanks, Item 8, it was recorded that ways were being sought to limit the dual approved UN portable tanks and RID/ADR 6.8
3. ITCO does not support the proposal to rescind the dual approval of RID/ADR 6.8 and UN portable tanks because of the consequential harm to the intermodal industry, the details of which are set out below.
4. In practice, intermodal tanks almost invariably conform to multiple regulatory approvals which may or may not include RID/ADR 6.8.
5. Intermodal UN portable tanks with RID/ADR 6.8 approval have been successfully operated by industry for many years – without any safety incidents or regulatory issues. This has been standard practice even before the introduction of UN portable tanks when IMDG IMO 1, 2, 4 were dual approved to RID/ADR 6.8.
6. The justification for restricting dual specification is not substantiated. The report refers to difficulties presented by dual specifications and problems in terms of approval, approval numbers, control, use, marking and tank type identification. However, no detailed evidence has been made available.
7. In practice, authorised inspection processes conform to regulations; intermodal tank operators experience no operational issues and most importantly, there is no compromise of safety and regulatory conformance during construction and use.
8. ITCO remains open to examining any issues and contributing to developing a resolution that does not harm the intermodal industry and safe practice.
9. We set out the key issues, highlighting the need to retain the long-established procedures to include RID/ADR 6.8 approval to intermodal UN portable tanks.

Safety and regulatory conformance

10. Safety of construction and operation is never compromised. Indeed, safety is enhanced by multiple regulations.
11. No safety incidents have been reported.
12. Due to the expertise and management required of a tank container manufacturer and the approved inspection body, it is well within their competency to provide for design and construction of the tank to multiple regulations. Similarly, the precise regulatory provisions of the periodic inspection and test must be undertaken for each regulation.
13. Conformance to multiple regulations is crucial to the sustainability of the intermodal tank in the international environment because regulations are not harmonised.
14. Approvals are granted by the Competent Authority only after their approved inspection body ensures the full demonstration of conformity to the detailed provisions of each regulation in turn.
15. Amendments included in RID/ADR 2023 Chapter 1.87 further reinforce the Competent Authority accreditation and governance of approval inspection bodies.
16. Conformance of the intermodal tank to multiple regulatory regimes enhances safety. Where there are two or more applicable regulatory design provisions, the higher requirement is applied. Therefore, a higher level of safety is attained as follows:
 - (a) Where each regulation specifies a minimum shell thickness, the higher thickness is applied to the shell.

(b) Where two pressure vessel codes are specified, (e.g., EN14025 and ASME VIII Div1) each calculated design feature is assessed and minimums established, e.g. shell thickness, dished end thickness, minimum length of straight on a dished end flange, minimum opening re-enforcement compensation, and on rules of fabrication.

(c) Minimum fillet weld dimensions on flanges and maximum and minimum butt weld re-enforcement. In the event of different provisions, the higher requirement is applied.

(d) Radiographic provisions are specified by each regulation or pressure vessel code. Each quality systems and non-destructive testing (NDT) operator and radiographic interpreter qualification required by each regulation, are applied such that an operator and interpreter will need to attain both qualifications. Each radiograph will be quality assessed to two different codes so that materials, processes, and markings applied on each radiograph are dual certified.

Multiple conformances to International and national regulatory requirements is crucial to intermodal tank operations

17. Intermodal tanks are variously constructed to the provisions of international and national regulations including IMDG Ch 6.7 and/or IMO 4, RID/ADR Chapters 6.8 and/or 6.7, US Dot CFR 49 (for Chapter 6.7), or US Dot 51 using ASME U Stamp, TIR (customs), TDG (Canada), MITI (Japan) AGDC (Australia) TSG and SELO (China), and to pressure vessel codes EN14025 / EN12972 and ASME VIII Div. 1 or 2. and offshore tank standards such as DNV 2.7-1, EN 12079 and ISO 10855-1.

18. In addition, ISO standards are applied in tandem with regulations and are multi-level certified for conformance.

19. RID/ADR 6.8 approval is proven to conform to, for example, an L4BN when the tank is approved also to UN portable tank T11.

Regulatory use of intermodal tanks within Europe

20. Many IMDG UN portable tanks are additionally approved to RID/ADR 6.8.

21. Some, intermodal tanks, but not all, are dual approved to RID/ADR 6.7.

22. Dual approval is necessary to comply with:

- RID/ADR 2023 1.1.4.5
Carriage other than by road
- RID/ADR 6.8 Dual approved to IMDG 6.7 UN portable tank
Transport within Europe that include a journey by sea e.g. North Sea, Baltic Sea, etc.
- RID/ADR 2023 1.1.4.2.1
Carriage in a transport chain including maritime.
- IMDG 6.7 UN portable tank
Transport to and from a European destination where the journey includes a sea-leg.
- RID/ADR 6.8/4.3
Transport of the intermodal tank within Europe.
- RID/ADR 6.7/4.2
Transport of the intermodal tank within Europe.

Specification of use

23. Differences between regulations for the transport of specific substances detailed in the Dangerous Goods List, requires that within RID/ADR territories, intermodal tanks are dual approved to enable practical and economic use.

Bottom openings:

24. RID/ADR 6.8 allows for at least 88 substances to be transported by intermodal tank when fitted with a bottom opening which is not allowed by UN portable tank regulations.

Degree of filling:

25. Differs between RID/ADR 6.8 and intermodal UN portable tanks,

Pressure relief devices and frangible discs:

26. Differs between RID/ADR 6.8 and Intermodal UN portable tanks,

Tank special provisions

27. (RID 6.8/4.3) and UN portable tank special provisions (6.7/4.2) differ.

Class 2 liquified and refrigerated gases

28. For ease of reading, this informal document specifically references Class 1 and 3-9. Class 2 intermodal tanks used for liquified and refrigerated gases provide for additional issues to be addressed.

Proposal by France

29. ITCO welcome the proposal by France to allow a specified variation to a RID/ADR 6.7/4.2 UN portable tank instruction, where the equipment corresponds to that specified for each substance that is subject to RID/ADR 6.8/4.3, to be used for rail or road transport only. Details of this proposal require consideration.

Safe filling operations to multiple transport modes

30. Chemical producers, especially those operating terminals for multiple transport modes e.g. RID/ADR 6.8/4.3 intermodal tanks, fixed tanks (tank vehicles) demountable tanks and rail tanks, recognise that changing from one regulatory regime to another multiple times during the working day potentially increases operational risk.

31. Accordingly, chemical producers develop standard best practice procedures and personnel training based upon RID/ADR 6.8/4.3 and uniformly apply to all modes.

Modification cost

32. The modification costs of rescinding existing RID/ADR 6.8 or UN portable tank approval results in a huge cost on industry.

33. It is estimated that there are more than 800,000 intermodal tanks. The number of tanks that are dual approved to IMDG 6.7 and RID/ADR 6.8 is not known but based on estimates from manufacturers, it could be in the order of 600,000.

34. The process requires reviewing 800.000 tank regulatory approvals.

35. There will be a complex decision process that will need to be navigated by the approved inspection body and the owner before each intermodal tank is put in for a test. Some intermodal tanks will require re-approval.

36. Rescinding RID/ADR 6.8 or UN portable tank approval requires:

- Removal of existing markings

- Modification of the metal data plate
 - Estimated unit cost: 80.00 Euro
 - Estimated total cost: 48,000,000 Euro.
37. In addition, the costs of:
- Amendments to the existing type approval
 - Re-approval to RID/ADR 6.7
 - Exceptional inspections
 - Training programmes to instruct the use of the amended procedures (Tank operators and chemical producers).
38. These addition costs have yet to be estimated.

Environmental sustainability

39. Environmental sustainability is a key element to be addressed and ensure no harm to the existing excellent environmental performance of intermodal tanks.
40. The long service life expectation and intermodal efficiency of an intermodal tank provides for environmental sustainability due to their high rate of utilisation as a re-usable form of packaging.
41. This is made possible by the application multi-approvals which increased operational flexibility and enable global use without extensive “empty leg” transport and the consequential burden on the environment.
42. Intermodal tanks operate over long distances in many countries and are required to conform to all regulatory requirements over a lifetime of 20 or more years. Owners of intermodal tanks therefore need to make commercial and regulatory provision for both current and future operations because during that period the tank might be based in Europe but in later life moved elsewhere or might operate globally. More nations currently outside of RID/ADR territory may in future adopt RID/ADR 6.8

Consequence of a rescinding RID/ADR 6.8

43. RID/ADR 2023 1.1.4.5 Carriage other than by road – requires that the intermodal tank is approved as an IMDG UN portable tank or IMDG IM04
44. RID/ADR 6.7 – many intermodal tanks are not approved to RID/ADR 6.7. These tanks are approved as IMDG 6.7 UN portable tanks and RID/ADR 6.8.
45. Rescinding RID/ADR 6.8 approval to intermodal the tanks that are not approved to RID-ADR 6.7 would render the tanks unable to be operated within RID/ADR territories.

Proposal

46. ITCO seeks to understand the difficulties experienced by interested parties so that it may be able to establish a practical and flexible approach to the multiple regulation environment.