



PETROLEUM INDUSTRY TRANSPORT SAFETY FORUM

SUBMISSION TO THE EPA
ON PROPOSED AMENDMENTS TO THE
FLAMMABLE LIQUIDS TANKWAGON
CODE OF PRACTICE

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PETROLEUM INDUSTRY TRANSPORT SAFETY FORUM SUBMISSION TO THE ENVIRONMENTAL PROTECTION AGENCY ON PROPOSED AMENDMENTS TO THE FLAMMABLE LIQUIDS TANKWAGON CODE OF PRACTICE

1.0 Petroleum Industry Transport Safety Forum

1.1 The Petroleum Industry Transport Safety Forum is a voluntary organisation made up of delegated fuel industry participants assembled under the general auspices of Road Transport Forum NZ.

1.2 The group promotes safe, reliable operations. The group's primary purpose is to draw on member's substantial experience and provide representation to, and further the interests of, participants involved in the safe transport, storage and handling of petroleum products.

1.3 The group's members represent, and also provide services to the following:

Allied Petroleum Ltd, BP Oil NZ Ltd, Chevron New Zealand, Hooker Pacific, Lowes Industries, MFI Engineering, Tanker Engineering, Tanker Solutions, Tranzliquid Logistics Ltd, Z Energy Ltd.

2.0 Foreward:

The aim of the Code is to provide practical guidelines for the design, manufacture, and operation of fuel tankers and trailers under the Dangerous Goods regulations of 2004. The 2004 Regulations did not provide this advice.

3.0 Comments

3.1 Proposed amendments to clauses 2.3.1.8 and 2.3.2.5.

3.2 These amendments repeal clauses 2.3.1.8 and 2.3.2.5. Airport Only Refuellers will be required to be fitted with rear collision bumpers in accordance with clauses 2.3.1.6, 2.3.2.2, 2.3.2.3 and 2.3.2.4.

- 3.3 The amendment does not identify whether this requirement will be applied retrospectively. We would not support the retrospective fitment of rear collision bumpers to Airport Only Refuellers.
- 3.4 Doing so will come at significant expense to those vehicle's operators. There will be a cost involved with the design, manufacture and fitment of rear collision bumpers to existing vehicles. However, the greatest cost will be the loss of productivity while vehicles are taken out of duty to have those bumpers fitted. There will also be additional costs incurred through temporarily replacing those vehicles while they are out of service.
- 3.5 We suggest applying this requirement to new, or vehicles that are newly put into those roles following a set date. In setting that date the lag that exists between ordering and commissioning new vehicles should be accounted for.
- 3.6 Safety risk would not be significantly affected by taking this position. We suggest a 6 month transition period following the final release of the Code amendments.
- 4.0 Proposed clause 3.5.5.3.
- 4.1 This clause provides clarification for the installation of pipes that are covered by clauses 3.5.5.1 and 3.5.5.2.
- 4.2 The addition of clause 3.5.5.3 will undoubtedly create a more consistent approach to pipe fitment. However, there are proven alternatives that would be equally suitable that warrant consideration. By insisting that any pipe passing through the barrel must be run either immediately in front of, or behind a bulkhead, the Code's objectives would be met.
- 4.3 For over 30 years Manufacturers in New Zealand have installed pipes in compartments, other than rear compartments, to simplify design and operability of tankers. In that period of time there have been no failures resulting from this practice.

- 4.4 Experience has also shown that no concern arises when fitting tankers with centrally located service tubes terminating adjacent to bulkheads. Mechanical stress principles dictate that potential tank deformation would be minimised if pipes were placed immediately adjacent to the bulkhead.
- 4.5 Our experience is that fitment in this manner minimises the potential for damage to the pipe regardless of whether it is fixed at the front, intermediate or rearmost bulkheads.
- 4.6 Our suggestion is to amend clause 3.5.5.3 to enable pipes to be mounted in any compartment, and able to pass through the barrel either immediately in front of, or behind a bulkhead.
- 4.7 We also suggest limiting the termination of those pipes to within 500mm from the bulkhead, depending on bulkhead construction methods.
- 4.8 Some bulkheads are laterally strengthened with stiffeners which are usually at least 150mm wide. To accommodate the range of different design and operational processes it would be sensible to insist that pipes terminate at a distance of no more than 500mm from the bulkhead.
- 5.0 Table 3.4 - Minimum thickness of pipes passing through the shell
- 5.1 Table 3.4 introduces a variety of recommended wall thicknesses based on pipe diameter and material type for pipes that are passing through tanker shells. Some of those recommendations are not entirely aligned with current material options and availability.
- 5.2 For example, the standard aluminium pipe available in New Zealand is Ø50x3mm wall thickness. The Ø50x4mm wall thickness pipe proposed in Table 3.4 is not commercially available in New Zealand. The next available size is Ø50x6mm wall thickness.

- 5.3 Ø50x6 wall thickness pipe is approximately twice the mass of Ø50x3 wall thickness pipe. Admittedly that pipe would, in some situations, be less susceptible to fatigue and stress failure. In this application though, that material choice is needlessly excessive.
- 5.4 Ø50x3mm wall thickness pipe has proven to be an extremely reliable material which has shown no obvious concerns when used in the application being discussed. There are vehicles that have been in service for over 20 years fitted with Ø50x3mm wall thickness pipe. In that period of time those pipes have remained incident free and have created no cause for concern.
- 5.5 We therefore recommend that Table 3.4 be amended to recognise the availability and reliability of Ø50x3mm wall thickness pipe.

Conclusion

We appreciate the opportunity that has been provided to comment on the Working Draft of the Code. We agree and support the majority of proposed amendments.

We trust that the discussion we have provided on points that we don't entirely agree with will be further considered. Our arguments are based on over 30 years' experience of building, servicing, and operating tankers & trailers in this way. These are also the same principles that are used extensively overseas, i.e. all Europe, parts of Asia, Australia, and America.