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
Bern, 14–18 March 2016
Item 2 of the provisional agenda
Tanks

Miscellaneous topics on tanks

Transmitted by the Government of the Netherlands

The following three topics emerged while evaluating an old national procedure on
construction of LPG tanks. It was suggested that these issues were safety related but are not
or not sufficiently addressed in RID/ADR. It is suggested to discuss these topics in the
working group on tanks.

Topic 1) Fire safe design of primary shut off valves on tanks intended for the carriage
of under pressure liquefied flammable or toxic gases.

Proposal 1:

Introduce new wording in 6.8.3.2.3 to read: (new wording in *Italic* script)

6.8.3.2.3 The internal stop-valve of all filling and all discharge openings of tanks
intended for the carriage of liquefied flammable or toxic gases shall be of *fire safe design*, instant-closing and shall close automatically in the event of an
unintended movement of the tank or in the event of fire. It shall also be
possible to operate the internal stop-valve by remote control.

Justification topic 1:

Internal stop valves or primary shut valves shall close automatically in case of a fire. Also
these valves should remain tight under fire conditions. Standard EN ISO 10497 is already
available for many years and valves in compliance are on the market. Standard EN 12252,
referenced in ADR for LPG road vehicles, mentions this standard but is not specific to
which valves it applies.

EN 12252 being dedicated to LPG only, means that for other tanks for similar gases
identical requirements should apply, for this reason it is proposed to be mentioned in
RID/ADR. If this topic is favourably received CEN should be informed to further specify
the application of EN ISO 10497:2010 to primary shut off valves in EN 12252 and to
include EN 10497:2010 in EN 14433 as applicable for bottom valves for gaseous
substances. It should also be considered if a transitional measure is needed for existing
tanks.
Topic 2) prohibition of gauge glasses.

Proposal 2

Introduce a new 6.8.2.2.11 to read:

Glass level-gauges and gauges made of other fragile material, which are in direct communication with the contents of the shell shall not be used.

Proposal 3

Deleted the first sentence of 6.8.3.2.6 to read: (deleted wording stricken through)

6.8.3.2.6 If the tanks are equipped with gauges in direct contact with the substance carried, the gauges shall not be made of a transparent material. If there are thermometers, they shall not project directly into the gas or liquid through the shell.

Proposal 4

Amend the first paragraph of 6.10.3.8 (f) to read: (new wording in italic script, deleted wording stricken through)

(f) The tank, or in case of compartmented tanks, every compartment, shall be equipped with a level indicating device. Glass level gauges and gauges of other suitable transparent material **Sight glasses** may be used as level indicating devices provided:

(iv) they form a part… (rest unchanged).

Justification to topic 2:

If a particular device is not allowed this should be clearly included in the part of the regulation that it is prohibited. Sight glasses, transparent gauges and level indicating glass column gauges are not allowed in chapter 6.8. This can be concluded by the modification made in chapter 6.10 for vacuum operated waste tanks, where “sight glasses” are allowed. Another indication is in 6.8.3.2.6 where it is stating that “gauges shall not be made of transparent material”. In chapter 6.7 the use of transparent gauges (see 6.7.2.16.1 and 6.7.3.12.1) is also not allowed.

The wording of the proposal is based on the wording of chapter 6.7 and brings 6.8 in line with 6.7. Adoption of the new wording results in two consequential amendments. Because 6.8.3 modifies or completes 6.8.2 for gases there is no need to repeat this in 6.8.3. Also the wording in 6.10.3.8.(f) should use similar wording to prevent confusion.


Proposal 5

Introduce a new paragraph at the end of 6.8.3.2.9 to read: New wording in italic script)

6.8.3.2.9 Tanks intended …
Safety valves that may collect water, due to rain or spray, that will prevent correct functioning [in the case the water is frozen,] shall be provided with a rain cap. The rain cap shall not appreciably increase the discharge pressure or limit the flow of the discharge.

**Justification to topic 3:**

Some designs of safety valves may collect water in the discharge opening. This is in particular the case on specific types of safety valves used on tanks for liquefied flammable gases such as LPG.