

Meeting Minutes
LNG TF 11
Teleconference
10 July 2013
16.00-16.45 Central European time

I. Welcome and Introduction

1. Meeting participants introduced themselves as they joined the teleconference (see below, attendees)
2. There are no other points for agenda at this time.

II. Meeting Minutes from LNG TF-10 (Teleconference 3 July 2013)

3. Mr. Dijkhof asked if there are comments or remarks on the minutes of the last teleconference meeting and there are none.

III. Automatic Valve for LNG Tanks

4. There has been a change in the last version of the document that was prepared and sent to the LNG TF. A warning about preventing 'LNG trapping' was added. (LNG TF-11-01)
5. Email comments from Ravi Muthachari (Ashok Leyland) indicated that the word 'cylinder' is not appropriate for LNG so the term was changed to LNG 'tank'.
6. He also commented about the inconsistency of the use of the term 'automatic shut-off valve' in the text so the change was made in the terminology to refer to this now as the 'automatic valve.' The definitions section of R.110 makes clear this is a 'shut-off' valve.
7. Changes made to LNG TF 11-01, the working document for today has been amended between LNG TF 10 teleconference on 3 July and today. The changes can be seen in the updated initial document, now shown as LNG TF-11-03.
8. Justifications were added at the bottom of the new document using other existing standards and regulations referenced on the subject of LNG tank valves. Mr. Dijkhof reviewed the language of the newest document (based on the draft submittal of the Netherlands) as well as the standards/regulations for CNG, LPG and hydrogen.
9. A service valve and manual valve is not intended to be put in series for redundancy purposes. A more complete description of the manual valve has been included indicating that it is only for servicing while the automatic valve is used for fuel shut-off purposes (other than servicing) when the ignition is off, for whatever reason.
10. Mihai Ursan (Westport) prepared a document (LNG TF-11-02) that included international LNG codes. The ISO standard 12991 comes close to what we were attempting to achieve in the language, Also reviewed was NFPA 52 and Australia/New Zealand AS/NZS 2739-2009. All the standards Mr. Ursan researched require the isolation/shut off of the fuel. Each of the standards referenced uses different wording but the shutoff of the fuel line is required. None of the standards referenced require two valves for the shutoff.
11. Mr. Ursan explained that the automatic valve is safer than only a manual valve. If only a manual valve is used it exposes any person who may respond to an (emergency) incident to a dangerous situation by reaching for a manual shut off valve. Manual valves also are subject to human error if someone turns it off and doesn't remember to turn it on again when the vehicle is ready to be driven. It is easy to misuse the manual valve by closing it and forgetting to turn it on again, which

is something that Westport has experienced with some of their customers. Westport left only an automatic valve on their customers' tanks and removed the manual valve.

12. Mr. Dijkhof explained that the RDW did not intend to have the automatic and manual valves in series. The important point was that in CNG, LPG and H2 the automatic valve should be on the tank. That is why it might make sense to explain in the definition the distinction between the purposes of the manual valve and automatic valve (service versus shut-off when the ignition is off, for any reason).
13. Mr. Ursan indicated that what the RDW wants make sense, and that the more complete clarification of the valve functions would be an improvement in the document.
14. Wording that includes the manual valve OR automatic valve is not what RDW wants. Mr. Dijkhof believes that the clarifying the purposes of the valves explains the intention of the components, which should avoid confusion.
15. Mr. Ursan added that this is the intention of the Australian standard as well, although the language is different.
16. The new language added in sections 8.13.1.2 and 18.13.1.3, 'provisions on components fitted on the LNG Tank' now includes the purposes of the valves. (for 'service' and for 'fuel shutoff.')
17. Also the Australian/NZ standard, which agrees with our approach, will be added in the justification section of the proposed amendment document.
18. Mr. Murray (Chart) also suggested that we add for the manual valve 'for fuel system maintenance' to the explanation.
19. The team agrees that the new language will be satisfactory to the RDW. The new document will be sent to the LNG-TF for any comments. Mr. Dijkhof has had a discussion with RDW staff and they agree that, if the proposed amendment mandates an automatic valve mounted directly on the tank (regardless of what other clarifications might be added) then it is acceptable and Mr. Dijkhof should send the amendment to GRSG secretariat on Friday
20. Mr. Murray asked if the issue of fuel shutoff at 80% filling, as in LPG, has been discussed. Mr. Dijkhof indicated that there is no need to have an 80% filling restriction as there is with an LPG tank. This is not a high priority for the LNG amendment. Mr. Murray is satisfied that we don't have to address this issue.

IV. **ADR safety and LNG in Dangerous Goods Vehicles (UNECE WP 15).**

21. Mr. Dijkhof thanked the members of the Task Force who sent information on LNG safety as input to the presentations planned by Mssrs. Dijkhoff and Seisler to WP15, now rescheduled from July and September to sometime in weeks 42 or 43 (14-25th October). Mr. Dijkhof asked Task Force members to send any more information to him and Mr. Seisler in order to assist in the development of safety presentations of diesel versus LNG to the WP 15 group.
22. Mr. Ursan said that he is working on two safety films – bonfire and gunshot testing – and the movies should be professionally prepared by the time of the ADR meeting,

V. **Other topics**

23. Mr. Dijkhof thanked the group for their cooperation and input. We will send the newest document to the LNG TF immediately and will consider any comments received before the close of business on 11 July 2013. Mr. Dijkhof will submit the final document on 12th July 2013 to the GRSG secretariat.

PARTICIPANTS

Paul Dijkhof (KIWA) (Chairman)

Jeff Seisler (NGV Global/Clean Fuels Consulting (Co-secretariat)

Diego Goldin (NGV Global)

Mihai Ursan (Westport)

Jaime Del Alamo (NGVA Europe) (Co-secretariat)

Jose Luis Perez Souto (IVECO)

Peter Murray (Chart)