

**Code of practice for storage, land transportation and handling of LNG**

**AMENDMENT NO. 1**

January 2025

**1. Page 11, Foreword**

*Delete* the following:

**“International Organization for Standardization**

ISO 16924                      Separation distances of stationary LNG fuelling installation

Table 4 of this TR was adapted from Table B.2 of ISO 16924. The following items were omitted from Table 4 as they are beyond the scope of this TR.

- LNG storage tanks 120 m<sup>3</sup> to 300 m<sup>3</sup>
- LNG storage tanks >300 m<sup>3</sup>
- Boundary limit – LNG tank offloading connection
- Overhead electric power lines, above 600 V
- Dispenser – Onsite buildings
- If dead man's button limits the accidental discharge to LNG to 60 s”

**2. Page 14, Clause 2, Normative references**

*Insert* the following into the list of normative references:

EN 13530 series                      Cryogenic vessels. Large transportable vacuum insulated vessels

NFPA 59A                              Standard for the production, storage, and handling of liquefied natural gas (LNG)

**3. Page 14, Clause 3.1, Terms and definitions**

a) *Insert* the following, as a new subclause 3.1.3:

**“3.1.3 Equivalent**

It is an industry standard, or a national, regional or international standard with at least the same or higher requirements, deemed suitable by a competent person that the equivalent standard will achieve the requirements stated in the specific clause of this document.

Note 1 to entry – A competent person is one with a recognised degree, certificate, professional standing, or skill, and who, by knowledge, training and experience, has demonstrated the ability to perform the work.”

b) *Renumber* subsequent subclause numbers from “3.1.3” to “3.1.8” as “3.1.4” to “3.1.9”.

**4. Page 16, Table 1 Design considerations for LNG storage tanks**

Replace Table 1 with the table below.

Storage tanks	Design code	Volume capacity	Description
PLC/dewar	ISO 21029-1, ASME BPVC* or equivalent	175 L to 1000 L	PLC/dewar storage tanks are designed to be transported on LNG cylinder trucks.  These portable tanks are swapped/exchanged at customer site when empty.
Microbulk tanks	ASME BPVC* or equivalent	230 L to 5000 L	Microbulk tanks are stationary installations located at the customer site.  However, they can be designed to be transportable if the design follows the ASME code and the capacity limit is no more than 1000 L water capacity.
Bulk storage tanks	ASME BPVC* or equivalent	5000 L to 100000 L	Bulk storage tanks are stationary installations located at the customer site.
*American Society of Mechanical Engineers (ASME) Boiler & Pressure Vessel Code Section VIII, Division 1 (ASME BPVC)			

**5. Page 16, 4.2.1 Introduction, Paragraph 4**

Replace “3000” with “5000”, in the second sentence.

**6. Page 18, 4.2.2 Design code, Paragraphs 1 and 2**

Replace with the following text:

“The design codes typically used for PLCs are ISO 21029-1, ASME BPVC or equivalent.

ISO 21029-1, ASME BPVC or equivalent is used for transportable liquid cylinders with a water capacity not exceeding 1000 litres”

**7. Page 22, 4.3.6 Pressure relief devices, Paragraph 5**

Replace the following text:

- “a) Normal boil-off gas rate, plus the largest of:
- i. full flow through a PBU or saturation vaporiser (continuous flow);
  - ii. maximum vapour inlet from sub-cooling of any associated LNG pump (one quantity/inventory of gas);
  - iii. maximum vapour inlet from spill-back/recirculation through any offloading pump (continuous flow).

Technical Reference TR 74 : 2020  
Amendment No. 1

- b) Fire and loss of vacuum in the insulation space according to the applicable standards (e.g. ISO 21013-3).

Other sources of gas or heat, in combination with or alternatively to the aforementioned items a) to b)."

with:

- "a) Pressure build-up unit (PBU) run away condition;  
b) Heat input with loss of vacuum;  
c) External fire with loss of vacuum."

**8. Page 32, Table 3**

*Replace* the last row with the following:

8	Cryogenic hoses	Convoluted core – SS 304, SS 316 or SS 321 External braid (single or double) – SS 304 or SS 316
---	-----------------	--

**9. Page 33, 4.9.2 Recommended minimum safety distances**

*Replace* "Table 4 (extracted from ISO 16924)" with "NFPA 59A".

**10. Page 33, Table 4**

*Delete* Table 4.

**11. Page 34, 4.9.3 Tank installation**

*Replace* Paragraph 7 with the following:

"Where fire walls are used for the boundary of the LNG storage tank farm to reduce the separation distance, the fire walls shall be constructed for a fire-resistance duration that commensurates with the fire exposure risk and in no case less than 2 h.

NOTE – If uncertain on the fire wall resistance required, one can consult the relevant authorities"

**12. Page 41, 5.2.2 General design requirements, Paragraph 2**

*Replace* the second sentence "Cold stretched manufacturing process for inner shell/head shall not be allowed for road transportation vehicles." with "Cold stretched manufacturing process for inner shell/head is allowed for road transportation vehicles provided that the inner vessel is designed, built and certified to the EN 13530 series of standards."

**13. Page 73, Bibliography**

*Delete* "NFPA 59A Standard for the production, storage, and handling of liquefied natural gas (LNG)".