Formal Interpretations/ Interprétation formelle

This section lists questions that individuals have submitted about a particular standard. Each question has been reviewed and answered by the appropriate committee. If you would like to submit a question about a particular standard, please see the end notes in the preface of that standard.

Posted Jan 25, 2022

The following interpretation regarding Clause 11.7.3 of CSA Standard Z276:18, Liquefied natural gas (LNG) - Production, storage, and handling, has been approved by the Members of the CSA Standards Technical Committee on Liquefied Natural Gas (LNG) Production, Storage, and Handling (K104).

**Question:** In CSA Z276-18, Section 11.7 covers hoses and arms. 11.7.3 says “Loading arms for marine loading and unloading shall be provided with alarms to indicate when the arms are approaching the limits of the extension envelopes.” Does it mean that only articulated loading arms (pipes plus swivel joints) are allowed for marine loading and unloading of LNG?

**Answer:** No

Posted Jan 25, 2022

The following interpretation regarding Clause 11.7.3 of CSA Standard Z276:18, Liquefied natural gas (LNG) - Production, storage, and handling, has been approved by the Members of the CSA Standards Technical Committee on Liquefied Natural Gas (LNG) Production, Storage, and Handling (K104).

**Question:** We are requesting interpretation of CSA Z276-18, that floating hose can be used in place of rigid/insulated piping for transfer of LNG from a shore terminal to a loading platform.

**Answer:** Yes, provided that the floating hose meets the requirements of CSA Z276 Clause 4.1.

Additional guidance on flexible hoses are considered in CSA Z276 11.7 and 13.3.10.13 as well as Annex B. Suggest designer refer to other standards to ensure meeting design, fabrication, and operational (purging, inspection, and testing) requirements.

Posted Dec 21, 2021

The following interpretation regarding Clause 4.3.3 and Table 4.1 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA
Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

**Question 1:** Must a sweet natural gas pipeline consider unrelated Sour Gas Facilities within the Class Location Assessment Area to determine the applicable Class Location?

**Answer 1:** Yes

**Question 2:** Does the presence of an unrelated Sour Gas Facility within the Class Location Assessment Area automatically require that this area of the pipeline be at least Class 2?

**Answer 2:** No

**Question 3:** If a release from the sweet natural gas pipeline, passing near an unrelated Sour Gas Facility, could create a dangerous or environmentally hazardous condition at the Sour Gas Facility, does this require that this area of the pipeline be at least Class 2?

**Answer 3:** Yes

*Posted Dec 21, 2021*

The following interpretation regarding Clause 5.1.3 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

As per CSA Z662-19 Oil and Gas Pipeline Systems Clause 5.1.3 materials for types of items for which no standard or specification is listed in the Standard may be used provided the company has determined such materials are suitable for the intended use as per Clause 5.8

**Question:** Could the engineering assessment provide a foundation for future inclusion in the Standard?

**Answer:** This is not part of the interpretation of the standard. Recommendations for future inclusion in the standard are addressed by the CSA Request for Change process.

*Posted Dec 21, 2021*

The following interpretation regarding Clause 10.13.2.2 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).
Question 1: Does Clause 10.13.2.2 impose “weld restraint level” as an essential change for qualification of in-service welding procedures?

Answer 1: No

Question 2: Does Clause 10.13.2.2 impose “weld cooling rates” as an essential change for qualification of in-service welding procedures?

Answer 2: Yes

Question 3: If “weld restraint level” was not measured or characterized in any way (quantitatively or qualitatively), or was not documented in the procedure qualification record at the time a welding procedure specification was qualified in accordance with Clause 7.17, does Clause 10.13.2.2 prohibit the use of that welding procedure for in-service welding?

Answer 3: No. However, application of external forces during in-service weld joint fit up should be considered.

Posted Dec 21, 2021

The following interpretation regarding Clauses 4.14.2.11.c) and 4.14.3.8.d) of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

Question: Regarding portions of compressor and pump stations piping systems designed in accordance with ASME B31.3 as permitted in Clause 4.14.2.11.c), 4.14.3.8.d) and related notes, is it intended that users would follow the requirements of ASME B31.3 “in its entirety”, without further supplementary requirements of any kind (including other than design) being imposed by other clauses in CSA Z662?

Answer: No, “in its entirety” only applies to design requirements for compressor and pump station piping.

Posted Dec 21, 2021

The following interpretation regarding Clause 4.3.18 and 4.3.19 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

Question 1: In Table 4.6 Design of welded branch connections, the ratio of nominal branch diameter to nominal run diameter is calculated using the nominal diameter of the branch pipe or fitting (i.e., NPS) and not the exact outside diameter or the diameter of hole in the run pipe (D₀).
**Answer 1:** Agree.

**Question 2:** Can the area of reinforcement calculations in Clause 4.3.19 be used to demonstrate that reinforcement is not required to control stress levels within safe limits (not considering stresses that could be induced by other loads) despite the applicable items in Table 4.6 indicating that reinforcement shall be complete encirclement type, pad type, saddle type, or welding outlet fitting type.

**Answer 2:** Yes.

*Posted Dec 21, 2021*

The following interpretation regarding Clause 7.9.2 and Figure 7.2 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

**Question:** Can the maximum allowable offset of 1.6 mm referred to in Clause 7.9.2 be added to the nominal internal offset (bi) of 2.4 mm permitted in Figure 7.2 Note 2.a, thereby allowing for a total of up to 4.0 mm internal offset without requiring an internal taper transition or internal taper weld as otherwise required by Figure 7.2 Notes 2.b through 2.d?

**Answer:** No

*Posted Dec 21, 2021*

The following interpretation regarding Clause 4 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

**Question 1:** Can the Flexibility Characteristic and Flexibility Factor related to Table 4.8 Sketch C be used for complete encirclement type of reinforcement that are welded to the branch piping but not welded to the run pipe?

**Answer 1:** No

**Question 2:** In the event that sketch C cannot be used, can the designer default to using sketch D instead?

**Answer 2:** Yes

*Posted Dec 21, 2021*
The following interpretation regarding Clauses 4.11.1 and 4.11.2 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

**Question 1a:** Would geohazard or unfavorable conditions that could create instability during the installation of the pipeline at the cover required in Table 4.9 be considered an adverse condition?

**Answer 1a:** Yes, provided it prevents installation with the required depth

**Question 1b:** Would impact to an adjacent infrastructure during the installation of the pipeline at the cover required in Table 4.9 be considered an adverse condition?

**Answer 1b:** No, unless it prevents installation with the required depth

**Question 2:** Would a utility already at the pipeline depth be considered an adverse condition that would allow reduced cover?

**Answer 2:** No, unless it prevents installation with the required depth

**Question 3:** Would a utility already at the pipeline depth that the pipeline could be routed beneath be considered an adverse condition that would allow reduced cover?

**Answer 3:** No

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The following interpretation regarding Clauses 13.3.8.1 and 13.3.9.4 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

**Circumstances**

A Polyethylene pipeline is designed and constructed to CSA Z662 Clause 13.3. The design engineer wants a pipeline with a maximum operating pressure (MOP) of 100 psi. He back calculates the required Standard Dimension Ratio (SDR) using the formula given in Clause 13.3.2.2. Due to standard sizes of polyethylene pipe and availability of materials, he selects an SDR with a thicker wall than the minimum calculated. Using that wall thickness, he back calculates an effective design pressure per the formula in Clause 13.3.2.2 of 150 psi, because the wall thickness is much more than required. Clause 13.3.8.1 requires a pressure test at least 1.25 x the design pressure

**Question 1:** In this situation, is the “design pressure” referenced in clause 13.3.8.1 intended to be the “intended MOP”, in that the minimum test pressure required is 1.25 x 100psi = 125 psi?
Answer 1: Yes

**Question 2:** In this situation, is the “design pressure” referenced in clause 13.3.8.1 intended to be the “effective” design pressure as back calculated from the equation given in clause 13.3.2.2 using the actual thicker wall used in the project, and that the minimum test pressure required is 1.25 x 150 psi = 187.5 psi?

**Answer 2:** No

**Question 3:** Should the reference to “design pressure” in Clause 13.3.8.1 actually be referencing “intended maximum operating pressure”?

**Answer 3:** Yes

**Question 4:** Similar situation as above, if this case was a repair piece of pipe with a higher thickness than required, is the “design pressure” referenced in clause 13.3.9.4 intended to be the “intended MOP”, in that the minimum test pressure required is 1.25 x 100psi = 125 psi?

**Answer 4:** Yes

**Question 5:** Should the reference to “design pressure” referenced in Clause 13.3.9.4 actually be referencing “intended maximum operating pressure”?

**Answer 5:** Yes

Posted Dec 21, 2021

The following interpretation regarding Table 4.2 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

**Question 1:** Should concrete slab protected crossings be considered equally as good as “cased crossings”?

**Answer 1:** No

**Question 2:** Should concrete slab protected crossings have the same location factors as “cased crossings”?

**Answer 2:** No
**Question 3:** Does “All except uncased railway crossings” include concrete slab protected uncased railway crossings?

**Answer 3:** No

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The following interpretation regarding Table 7.3, 7.10, Clauses 7.8.1.5, 7.8.2.4, and 7.8.2.7 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

**Circumstances 1**
A circumferential in-service sleeve welding procedure is qualified in accordance with Clause 7.17 and Table 7.10 with the run pipe in horizontal position. Welding is conducted using uphill progression.

**Question 1a:** Is this welding procedure qualified for pipe position with any inclination?

**Answer 1a:** Yes, as per Table 7.10

**Question 1b:** Or is it limited with pipe inclination up to 45 degree?

**Answer 1b:** No

**Circumstances 2**
A circumferential in-service sleeve welding procedure is qualified in accordance with Clause 7.17 and Table 7.10 with the run pipe in horizontal position. Welding is conducted using uphill progression.

**Question 2:** For a welder who made this test weld, or a welder who is tested with the run pipe in horizontal position, is the welder qualified for pipe position with inclination up to 45 degree?

**Answer 2:** Yes

**Circumstances 3**
As an alternative way to qualify the welder for in-service sleeve welding: If the welder is qualified on welding an in-service branch connection whose outside diameter is at least 50% of the outside diameter of the run pipe and the test weld was made with the branch on the side of the run pipe

**Question 3a:** In consideration of Clause 7.8.1.5 is the welder qualified for in-service sleeve welding?

**Answer 3a:** Yes
**Question 3b:** Does this testing qualify the welder for in-service sleeve welding on all positions and with no limitation on pipe inclination?

**Answer 3b:** Yes

*Posted Dec 21, 2021*

The following interpretation regarding Clauses 10.5, 10.6, and Figures 3 and 4 of CSA Standard Z245.11-17, Steel fittings, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

**Question 1:** Can a counter-bore and taper be used as an end preparation to align materials of matching grade if the fitting wall thickness is greater than the matching pipe, this is not an explicit option in Figure 3, Recommended End Preparations?

**Answer 1:** Yes. Figure 3 is recommended but not exclusive.

**Question 2:** Is there a limit on the length of the transition region within a fitting, particularly for a counter bore and taper end preparation?

**Answer 2:** No, it is not addressed.

**Question 3:** Can a counter-bore and taper end preparation be used on a fitting if the grade is less than the matching pipe provided the counterbore wall thickness is suitable for the material grade? Clause 10.6 and Figure 4 seem to prohibit it.

**Answer 3:** No.

**Question 4:** If 1) or 3) are yes, is it required that the fitting integrity, i.e. not impacting fitting pressure rating, is maintained when a counter-bore and taper end preparation is applied to a fitting be completed?

**Answer 4:** It is not addressed in the standard.

*Posted Dec 21, 2021*

The following interpretation regarding Clauses 1.2.3, 7.6.1.2, and 7.6.3.1 of CSA Standard Z245.1-18, Steel Pipe, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (Z662).

**Question 1:** For the manufacture of CAT II pipe with OD <114.3 mm; is a Charpy test mandatory to prove pipe body notch toughness properties in the form of energy absorption and fracture appearance?
**Answer 1:** Yes, as per Clauses 1.2.3, 7.6.1.1, and 8.4.

**Question 2:** For the manufacture of CAT II pipe with OD <114.3 mm; is it acceptable for the manufacturer to certify material to CAT II without performing a Charpy test?

**Answer 2:** No, only materials with proven notch toughness as per Clause 1.2.3 may be certified as Catt II.

**Question 3:** Can the manufacturer prove pipe body notch toughness properties in the form of energy absorption and fracture appearance through other means? Clarification of ‘other means’: Other means to be defined by the manufacturer and shall guarantee the CAT II compliance of the material to the customer. An example of other means is a strict control on the chemical composition and steel making, forming and heat treatment process combined with Charpy tests formed on other, larger OD products, produced in the same conditions.

**Answer 3:** No, as per Clause 7.6.1.1 and 8.4

*Posted Nov 22, 2021*

The following interpretation regarding Clause 12.8.4.1 of CSA standard B139 Series, Installation code for oil-burning equipment, has been approved by the Members of the CSA Technical Committee on *Fuels and Appliances*.

**Question:** Are certified vent connectors complying with section 12.2 also subject to the requirements of section 12.8.4.1?

**Answer:** Yes

**Note:** Yes; however, a separate wall thimble is not required provided that the combustion venting product is certified to one of ULC-S604, ULC-S609 or ULC-S629 and includes the (otherwise optional) testing of a wall penetration unit for clearance to combustibles that meets the requirements of ULC-S641. For clarity, if the venting product is listed to one of those standards but was not evaluated for a wall penetration for clearance to combustibles, or is listed to ULC/ORD-C959, then a wall penetration device listed to ULC-S641 would still be required.

*Posted Oct 28, 2021*

The following interpretation regarding CSA C22.1:21, Canadian Electrical Code, Part I has been approved by the Members of the CSA Technical Committee on the *Canadian Electrical Code, Part I*.

**Question:** Is a storage-tank water heater considered a *heating device*?

**Answer:** Yes