

VARIANCE

**No. VA12-006
(IB12-010)**

Subject

Variance to Section 4(2) of the Pressure Equipment Safety Regulation
(Alberta Regulation 49/2006)

Section 4(2) of the Pressure Equipment Safety Regulation (PESR) allows for partial exemption of pressure piping from the Regulation stating that:

(2) Pressure piping

- (a) that does not exceed DN 50,
 - (b) that has a maximum allowable working pressure not exceeding 1035 kilopascals,
 - (c) that has a design temperature between minus 29 degrees Celsius and 186 degrees Celsius,
 - (d) that contains air, nitrogen, argon, carbon dioxide, steam or hot water, and
 - (e) that is constructed to the applicable ASME Code,
- is exempt from all the other requirements of this Regulation except Section 35.

Date of Issue

July 31, 2012

This Variance applies to

Province-wide Variance

Reason for variance

The partial exemption under Section 4(2) of PESR has been applied to piping systems used to distribute hot water for building heating, or in small diameter "heat tracing" systems. Many such systems contain a mixture of water and glycol, which is not included in the fluid services listed in 4(2)(d) of the Regulation.

This partial exemption has also been applied to piping systems such as instrument air piping which often have sections installed inside a heated building where the exemption could be applied, but include sections installed outside the building where the temperature could be below minus 29 Celsius, such that the exemption could not be applied. These systems are typically designed and fabricated of P-1 or P-8 materials in accordance with ASME B31.3 Process Piping Code. When applying the stress reduction factor to P-1 materials the acceptable minimum design temperature per ASME B31.3 is below minus 46 degrees Celsius for a maximum allowable working pressure not exceeding 1035 kPa (pressure limit under Section 4(2)(b) of the Regulation). ASME B31.3 allows the use of P-8 materials at temperatures below minus 46 degrees Celsius.

This Variance, issued under the authority of Section 38 of the Safety Codes Act, allows the partial exemption provided in PESR Section 4(2) to be applied under specific conditions and in accordance with the adopted codes

and standards, allowing for an equivalent if not better level of safety under the Regulation.

Details of variance

Variance to Section 4(2)(c)

The exemption under Section 4(2) may be applied to pressure piping having a design minimum temperature not lower than minus 46 degrees Celsius provided it is fabricated of P-1 or P-8 materials, and all other conditions of Section 4(2) are met.

Variance to Section 4(2)(d)

The exemption under Section 4(2) may be applied to pressure piping that contains a mixture of water and glycol, and which is used to distribute heat for heating a building or heating a process, provided all other conditions of Section 4(2) are met.

Variance is specific and non-precedent setting

This Variance is specific and sets no precedent.

Authority under which the Variance is being issued

Section 38(1) of the Safety Codes Act, Chapter S-1

Advisement of Offence

Non-compliance with the requirements of this Variance is an offence under the Safety Codes Act.

Approval of Administrator

<original signed by>

K. T. Lau, Ph.D., P.Eng.
Administrator
Pressure Equipment Safety
Province of Alberta

Accredited organization employing the Administrator

ABSA the pressure equipment safety authority
9410 – 20 Avenue
Edmonton, Alberta T6N 0A4

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Submission of a copy of Variance to the Safety Codes Council

A copy of this Variance will be submitted to:
Safety Codes Council
1000, 10665 Jasper Avenue
Edmonton, AB T5J 3S9

Explanation of variance

A Variance is written permission issued to build, install, process or otherwise act in a manner not consistent with the specific requirements of an applicable code, standard or regulation but which provides, in the opinion of the issuing Administrator, an equivalent level of safety to persons and property.