



SAFETY CODES COUNCIL

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COUNCIL ORDER No. 0015430

**BEFORE THE GAS TECHNICAL COUNCIL
On November 30, 2012**

IN THE MATTER OF the Safety Codes Act, Revised Statutes of Alberta 2000, Chapter S-1.

AND IN THE MATTER OF the Order dated September 20, 2012 issued by an Accredited Municipality (Respondent) against a Construction Company (Appellant).

UPON REVIEWING the Order **AND UPON HEARING** the Appellant and the Respondent; **THIS COUNCIL ORDERS THAT** the Order is **VARIED**.

From:

You are hereby ordered to correct the deficiencies noted and contact the Accredited Municipality for a final inspection not later than November 1, 2012.

To: You are hereby ordered to install, by April 1, 2013, an engineer designed anti-skid walkway located adjacent to the gas-fired appliances and control panels on the roof of the multi-bay building. The anti-skid walkway shall extend from the gas-fired appliances to the point of access to allow for safe access and servicing of the appliances.

The engineered design shall ensure the roof structure has the capability to support the additional load associated by the addition of the anti-skid walkway. The anti-skid walkway shall be a minimum of 600 mm wide to permit safe movement of equipment and workers, be constructed and supported to handle the anticipated loads of workers and their equipment, and be constructed of a material such as expanded mesh, webbed metal, or a similar material, that sheds ice, snow, and debris while providing traction under a variety of conditions.

Issue:

1. The issue at appeal is safe access to service gas-fired appliances on a sloped roof.
2. Is a slope grade of 2.39 degrees considered “sloped” and does the requirements of 4.14.6 of the CSA Natural Gas and Propane Installation Code apply?

The Record:

3. The Appeal Panel considered the following documentation:
 - a) A submission dated November 27, 2012 from the Respondent with three appendices.
 - b) A Written Notification of Hearing dated November 9, 2012 from the Coordinator of Appeals.
 - c) A letter granting a Stay of the Order dated October 24, 2012 from the Gas Technical Council.
 - d) An Acknowledgment of a Notice of Appeal dated October 24, 2012 from the Coordinator of Appeals.
 - e) A Letter of Representation dated October 12, 2012 from the Appellant.
 - f) A Notice of Appeal dated October 9, 2012 from the Appellant including a Copy of the Order issued September 20, 2012.

Position of the Parties*Appellant*

4. The Appellant’s position is that:

- (a) The Order should be revoked. The slope of the roof is 2.39 degrees. An anti-skid walkway equipped with guardrails is not required if the slope grade of the roof is less than 4 degrees.

- (b) Table 9.3 of the Occupational Health and Safety (OH&S) Explanation Guide is divided into classes based on work surface and slope characteristics. Class 1 is described as “Flat – with a slope of no more than 4 degrees”.

Respondent

5. The Respondent’s position is that:

- (a) Clause 4.14.6 of the CSA Natural Gas and Propane Installation Code B149.1-10 (B149.1-10) requires that when an appliance is installed on a sloped roof a suitable anti-skid walkway equipped with guardrails is required so that the appliance can be safely accessed and serviced.
- (b) The B149.1-10 is silent on the definition of slope. When is a roof considered sloped?
- (c) Neither the B149.10-10, nor the Alberta Building Code provides direction with regards to the construction of anti-skid walkways and guardrails. Is a gas safety codes officer certified to determine and assess whether or not a proposed walkway complies with the building code or other legislation?

Provisions of the *Safety Codes Act*:

6. The *Safety Codes Act* provides:

Council considers appeal

52(2) The Council may by order

- (a) Confirm, revoke or vary an order, suspension or cancellation appealed to it and as a term of its order may issue a written variance with respect to any thing, process or activity related to the subject-matter of the order if in its opinion the variance provides approximately equivalent or greater safety performance with respect to persons and property as that provided for by this Act

Gas Code Regulation

Natural gas and propane installation code

- 5 CSA Standard B149.1-10 *Natural gas and propane installation code*, published in January, 2010 by the Canadian Standards Association, is declared in force with the variations specified in Schedule 1.

Provisions of the Canadian Standards Association (CSA) Standard B149.1-10 Natural Gas and Propane Installation Code:

7. The B149.1-10 provides:

3. Definitions

Appliance – a device to convert gas into energy; the term includes any component, control, wiring, piping, or tubing required to be part of the device.

4.14 Accessibility

4.14.1

An appliance shall be installed so that it is accessible for servicing.

4.14.6

When an appliance is installed on a roof,

- (a) the appliance shall be installed on a well-drained surface. When water stands on the roof, either at the appliance or in the passageways to the appliance, or when the roof is sloped or has a water seal, a suitable anti-skid walkway shall be provided. Such a walkway shall be located adjacent to the appliance and control panels, and when the appliance is located on a sloped roof, the walkway shall extend from the appliance to the point of access and be equipped with guardrails so that the appliance can be safely accessed and serviced;
- (b) the clearance between the appliance and the edge of the roof or other hazard shall be at least 6 ft (2 m); and
- (c) if the appliance is enclosed, such an enclosure shall permit easy entry and movement, be of reasonable height, and have at least 2 ft (600 mm) clearance on either side of the service access panel of each appliance in the enclosure.

Findings of Fact:

8. Appliances are installed on the roof of a multi-bay building (the Building) located within the Municipality. The building is a cargo facility and measures 30.480 metres (100 feet) in width and 152.40 metres (500 feet) in length. The roof of the building is metal and has a slope of 2.39 degrees. Anti-skid walkways and guardrails are not installed on the roof.

9. The Respondent has a memorandum of agreement with the building owner enabling the accredited municipality to administer the Safety Codes Act at the building. (Respondent's verbal submission)
10. A permit was issued for the building and inspections were undertaken by the Respondent. (Verbal and written submissions by the Respondent)
11. Clause 4.14.6 of the B149.1-10 requires that when an appliance is located on a sloped roof, a suitable anti-skid walkway is required. The walkway is required to extend from the appliance to the point of access and be equipped with guardrails.
12. Inspection reports indicate that the requirements of an anti-skid walkway and guardrails were identified to the Appellant as deficiencies on inspection reports issued on July 18, 2012, August 28, 2012, and September 20, 2012. (The Record, Item 3(a))
13. Clause 4.14.6 of the previous gas and propane code, the CSA Standard B149.1-05, was revised in 2007 to include requirements for installing a gas-fired appliance on a sloped roof.
14. The Natural Gas and Propane Code Handbook 2005 (B149.1-05) indicates that the intent and rationale of clause 4.14 is to provide sufficient access to appliances to permit maintenance, repair and replacement. The handbook is intended as a companion document to the B149.1-05 Natural Gas and Propane Installation Code. A handbook was not issued for the 2010 CSA Standard B149.1-10 Natural Gas and Propane Installation Code. The 2005 edition of the Natural Gas and Propane Code Handbook is the most recent handbook.
15. The B149.1-10 and the current building code, the Alberta Building Code 2006 (ABC 2006), does not provide a definition of slope. Sentence 1.2.1.1.(3) of Division B of the ABC 2006 indicates that for words not defined in the building code, reference shall be made to the Canadian Oxford Dictionary (Second Edition), published by Oxford University Press. Neither the B149.1-10 nor the Gas Code Regulation makes reference to another publication to obtain definitions for words not defined by the B149.1-10 or Gas Code Regulation.
16. The Canadian Oxford Dictionary (Second Edition) defines the following:

Slope - 3) an upward or downward inclination; an inclined position or direction, 4a) a difference in level between the two ends or sides of a thing, 4b) the rate at which this increases with distance

Flat - 1a) horizontally level

17. In testimony and in documentation, the Respondent indicated that when asked “When is a roof considered sloped?” a Safety Services Building Technical Advisor indicated that, “If it is not flat, it is sloped.” (The Record 3(a) Appendix i)
18. In submissions, the Appellant stated that according to Occupational Health and Safety definition, the roof of the building does not have a slope. The Appellant submitted Table 9.3 “*Selection of fall protection system to be used with work positioning, based on work surface and slope*” from the Occupational Health and Safety Code 2009 Explanation Guide as evidence to indicate a definition of slope.
19. Table 9.3 indicates that if the work surface and slope characteristic is “Flat – with a slope of no more than 4 degrees”, it falls under Class 1. In considering the evidence submitted the appeal panel reviewed the information provided in Table 9.3 and determined that Table 9.3 does not provide a definition of a roof slope. Table 9.3 is specifically for the selection of fall protection systems. Further, Table 9.3 is not from the Occupational Health and Safety Act, Regulations or Code. Table 9.3 is from the explanation guide, which the Appeal Panel would purport is similar to Safety Codes handbooks or appendices and is intended to provide explanation but does not have legislative authority.
20. Neither the B149.1-10 nor the Alberta Building Code 2006 provides design requirements for the anti-skid walkway and guardrails indicated in Clause 4.14.6 of the B149.1-10.
21. The Occupational Health and Safety Code 2009 Part 8 (Entrances, Walkways, Stairways and Ladders) provides that an employer must ensure that a walkway meets certain requirements and that the surface of the walkway has sufficient traction to allow workers to move on it safely.
22. An alternative solution to the requirements of 4.14.6 of the B149.1-10 was not proposed for the Appeal Panel’s consideration.

Reasons for Decision:

23. Clause 4.14.6 requires that when an appliance is installed on a roof and the roof is sloped a suitable walkway shall be provided. Such a walkway shall be located adjacent to the appliance and control panels. Furthermore, when the appliance is located on a sloped roof, the walkway shall extend from the appliance to the point of access, and be equipped with guardrails so that the appliance can be safely accessed and serviced. The intent of clause 4.14.6 is to ensure that a roof mounted appliance is not affected by accumulated water and that the installation is readily and safely accessible for inspection, maintenance and servicing particularly under adverse weather conditions.
24. The roof of the Building is sloped to a degree of 2.39 and is constructed of metal. Metal can be slippery under various weather conditions such as cold, wet, or snow covered. The

Appeal Panel determined that in some weather conditions, given the slope of the roof and the metal construction of the roof, that the access to the appliances could be unsafe.

25. The anti-skid walkway is a reasonable solution to prevent a person from slipping off the roof while accessing the appliances.
26. Neither the Gas Code nor the Alberta Building Code provides design and construction requirements for an anti-skid walkway. The Occupational Health and Safety Code provides requirements for walkways.
27. While Part 8 of the Occupational Health and Safety Code was not submitted by the parties to this appeal, there is a potential relationship of Safety Codes and the Occupational Health and Safety Code in ensuring that appliances are safely accessible for inspection, maintenance and servicing particularly under adverse weather conditions.
28. The Appeal Panel is knowledgeable and took a holistic approach in considering this appeal. Encompassing various intents of legislation and codes, The Alberta Gas Code Regulation, the B149.1-10, the Alberta Building Code 2006 and the Occupational Health and Safety Code 2009, all speak to safety. The Appeal Panel took into consideration the requirements imposed on an employer with regards to safety in the Occupational Health and Safety Code 2009, and the intent of 4.14.6 of the B149.1-10.
29. In determining that guardrails were not required for this rooftop, the Appeal Panel gave consideration to the minor severity of the roof slope and that the clearance between the appliance and the edge of the roof is greater than 6 feet (2 m).
30. The Appeal Panel gave consideration to: current weather conditions; the time needed to obtain a suitable engineered design for an anti-skid walkway; and for installation of the walkway, in determining a compliance date for this Order.
31. The Appeal Panel may issue a written variance if in its opinion the variance provides approximately equivalent or greater safety performance with respect to persons and property.

Dated at Edmonton, Alberta this 20th day of December, 2012

Chair, Gas Technical Council Appeal Panel