Alberta
MUNICIPAL AFFAIRS

ABSA
ALBERTA BOILERS SAFETY ASSOCIATION

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DIRECTIVE
CSA B52 Clause 5.10 Emergency Discharge and Appendix B Guideline for Emergency Discharge of Refrigerants

This directive is effective immediately and shall be carried out in accordance with the requirements herein stated unless varied or specifically superseded by regulation or another directive.

CSA B52 Clause 5.10 requires the designer to consider the provision of an emergency discharge system when designing a refrigeration system. For a system to be installed in Alberta, CSA B52 Appendix B "Guideline for Emergency Discharge of Refrigerants" must be followed to comply with this requirement except as provided below.

As an alternative to using Appendix B, a design engineer must conduct a Hazard and Operability (HAZOP) study which includes, but is not limited to consideration of, elements such as fueling a fire in the immediate vicinity of the refrigerant system, release of stored energy leading to explosion, release of toxic fluids inside a building, safety of operators and others, and damage to property. The results of the HAZOP study shall include all necessary actions required to make the system safe. The report of the HAZOP study shall be signed by a professional engineer and shall be submitted to ABSA for evaluation.

Background

This directive is to clarify the requirement of Clause 5.10 and to provide a practical alternative to using Appendix B. Compliance with Clause 5.10 is often subject to different interpretations leading to inconsistent conclusions for similar situations. It is also apparent that consideration of only environmental concerns may sometimes result in increased risk to the operators and building occupants in the event of an emergency. Failure to consider fully all hazards in lieu of providing the emergency discharge system can lead to increased hazard associated with the operation of a refrigeration plant's pressure equipment system. In the interest of consistent safe application of Clause 5.10 for the design of refrigeration systems for use in Alberta, the options are to design the discharge system in accordance with Appendix B or to conduct a HAZOP study and implement the design/study results.

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