



### MEDICAL GAS PIPING SYSTEMS

The purpose of this bulletin is to provide information about the requirements pertaining to medical gas piping systems.

#### **Manitoba Building Code:**

Sentence 3.7.3.1.(1) of the Manitoba Building Code requires non-flammable medical gas piping systems to be installed in conformance with CSA Z7396.1-06, *Medical Gas Pipeline Systems – Part 1: Pipelines for Medical Gases and Vacuum*.

The standard specifies safety requirements for the installation of medical gas systems within health care facilities and is intended to be used by individuals involved in the design, construction, inspection, and operation of the medical gas systems.

Medical gases and services include piping systems for oxygen, nitrous oxide, medical air, carbon dioxide, nitrogen for driving surgical tools, and vacuums.

#### **CSA Z7396.1:**

This standard specifies requirements for the:

- (a) design of systems to ensure the continuous supply of gas or vacuum;
- (b) selection of materials and components;
- (c) non-interchangeability of equipment between different gas systems and services;
- (d) cleanliness of materials and components and of the completed system;
- (e) configuration of system components;
- (f) control, monitoring, and alarm systems;
- (g) markings, and the information to be supplied by the manufacturer or installer;
- (h) contaminant testing of the gases delivered by the system; and
- (i) final testing.

#### **Pressure Equipment:**

Clause 5.2.4.1 of CSA Z7396.1 requires that pressure relief valves be certified as meeting the requirements of CSA B51-14, *Boiler, Pressure Vessel, and Pressure Piping Code*.

Clause 5.6.3.6.1 of CSA Z7396.1 requires receivers to be in compliance with all the requirements for unfired pressure vessels specified in CSA B51.

#### **Installer Qualifications and Responsibilities:**

Clause 11.4.1.1 of CSA Z7396.1 requires installers to have a valid brazing license, issued by the Authority having jurisdiction (AHJ) in accordance with CSA B51. The AHJ for the Province of Manitoba is the Office of the Fire Commissioner.

Clause 11.4.1.2 of CSA Z7396.1 requires installers and other tradespeople working on a medical gas system to be qualified by training and experience to work with medical gas systems and components. Installers must have documented proof that they have been trained in the requirements of CSA Z7396.1, and health care facilities should request documentation of relevant training and experience.

Installers are to follow quality assurance programs and must be trained according to quality control procedures.

**Compliance testing:**

Clause 12.4.2 of CSA Z7396.1 requires an accredited testing agency to conduct final testing prior to use to demonstrate that the supply system and/or pipeline distribution system complies with CSA Z7396.1. The testing agency shall provide a written report to the health care facility or their representative, that the installation is in accordance with the CSA Z7396.1.

**Further information:**

Please contact the Building and Fire Safety Section at 204-945-3322 or at [firecomm@gov.mb.ca](mailto:firecomm@gov.mb.ca) with any questions or for clarifications.