Compressed Gas Code Adoption Document (2024)

Consultation Summary

Introduction

TSSA's Fuels Safety Program is proposing to adopt a series of codes into regulation. The Compressed Gas Code Adoption Document (CAD) is adopted by reference in O. Reg 214/01. The CAD adopts a series of national safety codes into regulation. This CAD was last updated and published on February 18, 2009 (Ref No. FS-143-09).

TSSA is moving in a direction to harmonize its code requirements with other jurisdictions. This means less Ontario specific requirements. The CAD will adopt the latest version of the following codes:

- CSA B108.1 (2023 Edition) – Compressed Natural Gas Refuelling Stations Installation Code published by the Canadian Standards Association group (CSA);
- CAN/BNQ 1784 (2022 Edition) – Canadian Hydrogen Installation Code published by the Bureau de Normalisation due Québec;
- CSA B51 (2019 Edition Reaffirmed 2024) Part 3 – Compressed Natural Gas and Hydrogen Refuelling Station Pressure Piping Systems and Ground Storage Vessels published by the Canadian Standards Association group (CSA);
- CSA B109.1 (2021 Edition)- Compressed Natural Gas Vehicle Installation Code published by the CSA;
- CSA B401.1 (2021 Edition) – Natural Gas Vehicle (NGV) Maintenance Facilities Code published by the CSA.

A full list of changes from previous editions for CSA codes can be found on CSA Group's website Under the "Preface/Scope" section.

Summary of Consultation

TSSA has completed an online consultation on the draft 2024 Compressed Gas CAD. The consultation was launched on April 22, 2024, and remained open for a 45-day period. The consultations closed on June 7.

TSSA would like to thank all the individuals who participated in the consultation.

Compressed Gas Consultation Highlights		
Visitors to consultation page	**Informed Participants (reviewed/downloaded documents)**	**Engaged Participants (Submitted Feedback)**
~1500	~550	~14

There were more than 1500 visitors to the Engage TSSA Platform website. Approximately 550 participants reviewed or downloaded the attached documents, and three individuals submitted text responses to the survey via the Engage TSSA platform. Additionally, TSSA received two letters with feedback.

In general, the feedback received from participants was supportive of the changes in the draft Compressed Gas CAD. A key theme from the comments encouraged TSSA consider auto adoption and no Ontario amendments. Most comments received were not related to changes in the CAD. The comments were focused on TSSA's current processes and procedures. The outcome of the consultation resulted in no changes to the Compressed Gas Code Adoption document.

Overview of CAD Changes

Compressed Gas Code Adoption Document			
OSAs in 2009 CAD	**OSAs in 2024 CAD**	**Net Change**	**New OSAs**
141	65	-76	32

- 108 out of 141 Ontario-specific amendments from the 2009 version have been removed.
- A new amendment added to clarify a definition in the B108.1-23.
- Adopted Annex A (B108.1-23) to address safety gaps for implementation, maintenance, and personal training. Annex A includes 31 amendments.
- In total, 65 Ontario amendments will continue to be enforced.

Appendix A of this document includes a summary outlining the key changes between the 2009 and 2024 CAD.

Publication & Effective Date

The CAD will be published on July 2, 2024, and effective 60-days after the publication date on September 2, 2024.

Appendix A

Amendments to Compressed Gas Adoption Document (CAD) 2024

TSSA's Fuels Safety Program is proposing to adopt a series of codes into regulation. The Compressed Gas CAD is adopted by reference in O. Reg 214/01. The CAD adopts a series of national safety codes into regulation. This CAD was last updated and published on February 18, 2009 (Ref No. FS-143-09).

National codes

TSSA is moving in a direction to harmonize its code requirements with other jurisdictions. This means less Ontario specific requirements. The following outlines the various national codes adopted by the CAD:

- CSA B108.1 (2023 Edition) – Compressed Natural Gas Refuelling Stations Installation Code published by the Canadian Standards Association group (CSA);
- CAN/BNQ 1784 (2022 Edition) – Canadian Hydrogen Installation Code published by the Bureau de Normalisation due Québec;
- CSA B51 (2019 Edition) Part 3 – Compressed Natural Gas and Hydrogen Refuelling Station Pressure Piping Systems and Ground Storage Vessels published by the Canadian Standards Association group (CSA);
- CSA B109.1 (2021 Edition)- Compressed Natural Gas Vehicle Installation Code published by the CSA;
- CSA B401.1 (2021 Edition) – Natural Gas Vehicle (NGV) Maintenance Facilities Code published by the CSA.

Summary of Key Changes

The summary below highlights the notable changes from the last update of the Compressed Gas CAD in 2009:

Overview of changes
• Annex A of B108.1-23 is adopted as normative • New code, B401.1-21, is adopted for conversion centres. • BNQ 1784-22 has implications for hydrogen installations • Labelling requirements have changed under B109.1-21

A full list of changes from previous editions for CSA codes can be found on CSA Group's website Under the "Preface/Scope" section.

Ontario Specific Amendments Summary

The chart below provides a summary of the Ontario Specific Amendments (OSAs):

Compressed Gas Code Adoption Document			
OSAs in 2009 CAD	**OSAs in 2024 CAD**	**Net Change**	**New OSAs**
141	65	-76	32

In this version of CAD, TSSA has removed 108 out of 141 Ontario-specific amendments from the 2009 version of the Compressed Gas CAD. TSSA has added one amendment to clarify a definition in the B108.1-23. Additionally, TSSA has added 31 amendments by adopting Annex A in B108-.1-23 as normative. Adopting Annex A as normative addresses safety gaps related to implementation, maintenance requirements, and personnel training. In total 65 Ontario-specific changes will continue to be enforced.

TSSA has also introduced 13 clarification clauses to various codes. In all instances, clarification clauses have been written to defer to the code in instances where additional requirements can be added by the Authority having Jurisdiction.

Summary of Changes:

Additions (*Sections here refer to sections of the 2024 version of the CAD)

- **Clause 3.1** – This clause clarifies that the definition of "Station" in the code includes filling and decanting stations.
- **Clause 3.12** – This clause adopts Annex A in the B108-23 as normative. This addresses safety gaps related to implementation, maintenance, and personnel training.

Clarifications (*Sections here refer to sections of the 2024 version of the CAD). The following clarification clauses have been added to the CAD. These have been identified as clarification because they remove the ability of the Authority Having Jurisdiction (AHJ) to impose additional requirements not identified in the code or CAD.

- **Clause 3.12.4** – this clause clarifies that refresher training should be conducted as specified in the manufacturer's instruction.
- **Clause 4.1** – This clause clarifies that personnel training should be in accordance with clause 4.2 of the code.
- **Clause 4.2** – This clause clarifies the requirements around registration of gaseous hydrogen piping and fittings.
- **Clause 4.4** – This clause clarifies the requirements around welding and brazing procedures.
- **Clause 4.5** – This clause clarifies the requirements around containers for stationary storage of gaseous hydrogen.
- **Clause 4.6** – This clause clarifies the certification criteria for compress gaseous hydrogen storage originally intended for storage and onboard use.

- **Clause 4.7** – This clause clarifies the requirements for training related to the safe use of all mine hydrogen equipment and piping systems and their accessories.
- **Clause 4.9** - This clause removes the requirement for the AHJ to approve the maintenance program for gaseous hydrogen installations.
- **Clause 5.3** – This clause clarifies the items that must be verified by the installer prior to operation of a natural gas vehicle.
- **Clause 5.4** – this clause clarifies the testing requirements related to the Pressure Relief Device system.
- **Clause 5.5** – this clause clarifies the requirements for piping, tubing, fittings, and connections for joining components.
- **Clause 6.1** – This clause clarifies the requirements for standby power for the gas safety control system.
- **Clause 6.2** – This clause clarifies the requirements related to fire-detection and fire-alarm systems, and fire-suppression systems.

Deletions (*Sections here refer to sections of the 2009 version of Compressed Gas CAD).

- **VRA Definition**
- **Section 3.1 to Section 3.5 (inclusive)**
- **Section 3.7(a) & Section 3.7(b)**
- **Section 3.8**
- **Section 3.9 (a), (b), (c), (d), (e)**
- **Section 3.10**
- **Section 4.2.1**
- **Section 4.2.2**
- **Section 4.5.1 (a) & 4.5.1 (b)**
- **Section 4.6.1**
- **Section 4.7.7 to Section 4.7.11 (inclusive)**
- **Section 4.7.12(a)**
- **Section 4.8.1**
- **Section 4.10 including table with all 18 maintenance requirements.**
- **Section 4.11**
- **Section 4.12**
- **Section 6.1.1 to Section 6.1.3 (inclusive)**
- **Section 6.1.4 (a), (b), (c)**
- **Section 7 (all OSAs)**
- **Section 8.1**
- **Section 8.4 (a) & (b)**
- **Section 8.5 (a) & (b)**
- **Section 9 (all OSAs)**
- **Section 10 (all OSAs)**
- **Section 11 (all OSAs)**