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October 1, 2012 Revisions of TSSA Fuels Safety Code Adoption Documents, Codes and the Environmental Management Protocol

On October 1, 2012, the Technical Standards and Safety Authority published and revised a number of TSSA codes, code adoption documents and the Environmental Management Protocol. The revised documents are posted on the TSSA website www.tssa.org and will be effective on December 1, 2012. Subscribers to TSSA e-notifications were advised of these revisions via email. All affected TSSA certificate holders and contractors will be notified of these changes via regular mail before the changes take effect. Industry workshops will be organised in Ottawa, Toronto, Sudbury and London to further assist the industry in understanding and using the new and revised documents. The links below provide a brief introduction/summary for each affected document along with the document itself.

[Introduction to Gaseous Fuels Code Adoption Document Amendment FS 200-12](#)
[Gaseous Fuels Code Adoption Document Amendment FS-200-12](#)

[Introduction to Propane Code Adoption Document Amendment FS -201-12](#)
[Propane Code Adoption Document Amendment FS-201-12](#)

[Introduction to Field Approval Code FA-2012](#)
[Field Approval Code FA-2012](#)

[Introduction to Digester, Landfill and Biogas Approval Code DLB-2012](#)
[Digester, Landfill and Biogas Approval Code DLB-2012](#)

[Introduction to Fuel Oil Code Adoption Document Amendment FS 198-12](#)
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[Introduction to Liquid Fuels Code Adoption Document FS199-2012](#)
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[Introduction to Environmental Management Protocol EMP-2012](#)
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1. Gaseous Fuels Code Adoption Document Amendment FS-200-12

The TSSA Gaseous Fuels Code Adoption Document (CAD) amendment FS-201-12 will become effective on December 1, 2012 and will replace the previous document issued in 2005.

The Gaseous Fuels Code Adoption Document Amendment FS-200-12 adopts:

- CSA B149.1-10 Natural Gas and Propane Installation Code;
- TSSA Field Approval Code TSSA FA-2012.
- National Standard of Canada CAN/BNQ 1784-000/2007 entitled "Canadian Hydrogen Installation Code", prepared by the Bureau de normalization du Quebec is adopted for the installation of hydrogen fuelled appliances and equipment (originally adopted in 2007); and,
- TSSA Digester, Landfill and Biogas Approval Code, TSSA-DLB-2012 is hereby adopted.

The CSA-B149.1-10 Natural Gas and Propane installation Code has been adopted with Ontario specific amendments developed in consultation with the TSSA Natural Gas Risk Reduction Group (RRG). The Natural Gas RRG includes representatives from natural gas and propane suppliers, contractors, utilities, equipment manufacturers, code and standards development organizations and the Ontario government. The key Ontario amendments include:

- 1.1 Mandatory safety checks for residential natural gas boilers equipped with draft hood 300,000 Btu/hr or less. This will integrate the existing annual Director's Order into the code [Clause 4.25].
- 1.2 A clarification when a manual shut-off valve is not required to be easily accessible [Clause 6.18.3].
- 1.3 A clarification for low water cut-off requirements [Clauses 7.16-7.1.9].
- 1.4 Requirements for installing water heaters other than direct vent type in a bathroom, bedroom or an adjacent enclosure [Clause 7.26].
- 1.5 A requirement to line exterior clay tile chimneys with certified metal liners when replacing an existing appliance or connecting a vent connector to a chimney [Clause 8.12.2].
- 1.6 Restrictions when connecting small appliance into large chimney, also known as "seven times rule" [Clause 8.13.1 & 8.13.2].

The TSSA Field approval Code TSSA FA-2012 is introduced in item 3 below.

The TSSA Digester, Landfill and Biogas Approval Code, TSSA-DLB-2012 is introduced in item 4 below.

This CAD along with the relevant regulation and the Technical Standards and Safety Act is posted on the TSSA website: www.tssa.org and will be available from the Canadian Standards Association as part of the Ontario package when you order the new CSA B149.1-10 by going to www.csa.ca/tssa or calling (877) 893-8345.

2. Propane Code Adoption Document Amendment FS-201-12

The TSSA Propane Code Adoption Document (CAD) amendment FS-201-12 will become effective on December 1, 2012 and will replace the previous document issued in 2005.

The TSSA Propane Code Adoption Document (CAD) amendment FS-201-12 adopts:

- 2010 version of CSA B149.2-10 Propane Storage and Handling Code; and,
- CSA B149.5-10 Installation Code for Propane Fuel Systems and Tanks on Highway Vehicles, with Ontario specific amendments.

This CAD was developed in consultation with the TSSA Propane Risk Reduction Group (RRG) and the TSSA Propane Advisory Council. The RRG and the Council members include representatives from HRAI, ORVDA, CPA, propane distributors, consultants and provincial authorities. The CSA B149 committee includes representation from provincial and territorial authorities with mandates that are similar to TSSA along with other national industry organisations, equipment manufacturers and service providers.

Some of the more substantial changes in the Propane CAD FS-201-12 include:

- 2.1 New requirements for operation, maintenance and personnel training;
- 2.3 Exemption of OPD for cylinder less than 4 lb capacity;
- 2.4 Positive seals and valve requirements for DOT-4BW cylinders;
- 2.5 New requirements for underground storage tanks;
- 2.6 Clarification of requirements for tank to tank transfer;
- 2.7 Elimination of tank truck parking and used for storage in a congested area;
- 2.8 Requirements to meet IGAC Protocol No. 09-17 for components on propane highway vehicles;
- 2.9 New requirements for vehicle (running on propane) tank protection;
- 2.10 New marking and labeling requirements for propane fuelled vehicles.

This CAD along with the relevant regulation and the Technical Standards and Safety Act is posted on the TSSA website: www.tssa.org and will be available from the Canadian Standards Association as part of the Ontario package when you order the new CSA B149.1-10 by going to the CSA Group's online store: www.csa.ca/tssa or calling (877) 893-8345.

3. Field Approval Code FA-2012

The TSSA Field Approval Code FA-2012 will become effective on December 1, 2012 and will replace the previous document issued in 2005.

The Gaseous Fuels, Propane and Fuel Oil Code Adoption Documents (CADs) adopt the TSSA Field Approvals TSSA FA-2012 which in turn adopts either in whole or in part:

- CSA B149.3-10 Code for the Field Approval of Fuel-Related Components on Appliances and Equipment published in 2010 with amendments;
- National Fire Protection Association NFPA 85-2011 Boiler and Combustion Systems Hazards Code with amendments; and

- National Fire Protection Association NFPA 86-2011 Standard for Ovens and Furnaces with amendments.

This TSSA Field Approval Code was developed in consultation with the TSSA Field Approvals Risk Reduction Group (RRG). The RRG members include representatives from CSA, gas distributors, consultants, service providers, end users and consumer representatives. The CSA B149.3 committee on the other hand includes representatives from provincial and territorial authorities with mandates that are similar to TSSA along with other national industry organisations, equipment manufacturers and service providers.

Some of the more substantial changes in the TSSA-FA-2012 include:

- 3.1 Change in requirements on the type and number of safety shut-off gas valves used for a particular firing rate range - for both single and multiple burners appliances. This will further harmonise the requirements for appliances build in Canada and USA;
- 3.2 Requirements for linkageless fuel/air ratio controllers;
- 3.3 Replacement of term “relief valves” with “overpressure protection devices” to allow use of monitoring regulators and over pressure cut-off devices;
- 3.4 Updating the method for determining solvent safety ventilation rate for class A continuous process ovens as per the NFPA 86;
- 3.5 Introducing approval requirements for boilers fired on digester gas, landfill gas and biogas;
- 3.6 Updating approval requirements for PLCs when used as primary safeguard devices; and,
- 3.7 Expanding the content of an appliance rating plate for fuel oil appliances.

This Code along with the relevant regulations and the Technical Standards and Safety Act are posted on the TSSA website: www.tssa.org. The most current edition of the CSA B149.3-10 can be found on CSA Group’s online store. To purchase these go to www.csa.ca/tssa or call (877) 893-8345.

4. Digester, Landfill and Biogas Approval Code DLB-2012

In November 2007, TSSA assumed jurisdiction for Digester Plants and Landfill Sites from the Ministry of Environment. Since then TSSA has been inspecting the existing digester and landfill sites using CAN/CGA-B105-M93 – “Code for digester gas and landfill gas installations” to establish a reliable database of operational sites and their compliance with the existing industry standards.

The TSSA Digester, Landfill and Biogas Approval Code TSSA-DLB-2012 is adopted under the Gaseous Fuels Regulation O. Reg. 212-01 using the TSSA Gaseous Fuels Code Adoption Document Amendment FS-201-12 (CAD) introduced in section 1 above and will become effective on December 1, 2012.

The TSSA DLB-2012 covers the production, transmission, storage and utilization of the gas regulated by the Ontario Regulation 212/01. Section 4(1) of this regulation in turn requires all appliances to be approved. The required approval may be gained by certification of an appliance as complying with an approved standard or test report by a testing agency accredited by the Standards Council of Canada (SCC) or by having the affected appliance field approval by TSSA. Because currently there are no certification standards available for appliances operating with digester, landfill or biogas, the only option available is a TSSA field approval. The TSSA Field Approval Code is introduced in item 3 above. For more information regarding the TSSA field approval program please use the following link: <http://www.tssa.org/regulated/fuels/fuelsField.asp>

This first edition of the Digester, Landfill and Biogas Approval Code was developed in consultation with the TSSA Digester, Landfill, and Biogas RRG and is posted on the TSSA website: www.tssa.org. The digester and landfill portion of this code adopts, with amendments, the Canadian Standards Association CSA-B149.6-11 – “Code for digester gas and landfill gas installations” published in 2011. The biogas portion of the TSSA-DLB-2012 code adopts the Canadian Standards Association CSA SPE-149 – “Interim Code Requirements for Anaerobic Digesters for Renewable Energy”. The most recent editions of the above codes are available from the Canadian Standards Association as part of the Ontario package by going to www.csa.ca/tssa or calling (877) 893-8345.

The following definitions are used within the TSSA Digester, Landfill and Biogas Code TSSA-DLB-12:

- 4.1 **Digester Gas** - a gas produced from organic sludge through an anaerobic process with a heating value averaging approximately 590 to 700 Btu/ft³ (22 to 26 MJ/m³), generally composed of about two thirds methane and one third carbon dioxide. It may contain up to 0.5 per cent hydrogen sulphide (by volume).
- 4.2 **Biogas** - A gas produced in a digester at a location other than a Water Pollution Control Plant. It is generally composed of approximately one-half to two-thirds methane and approximately one-third carbon dioxide that is produced from organic residues with a heating value averaging approximately 590 to 700 Btu/ft³ (22 to 26 MJ/m³). By the nature of the biological process under anaerobic conditions its production and constituents are considered flammable, corrosive, and potentially hazardous. It may contain traces of water, hydrogen sulphide gas and dissolved ammonium and bicarbonate ions.
- 4.3 **Landfill Gas** - a gas consists primarily of methane, carbon dioxide, water and traces of hydrogen sulphide gas and dissolved ammonium and bicarbonate ions from the decomposition of organic waste material at a landfill site.
- 4.4 **Waste Gas** - waste gas is defined as digester, landfill or biogas.

5. Fuel Oil Code Adoption Document Amendment FS-198-12

The Fuel Oil Code Adoption amendment FS 198-12 will become effective on December 1, 2012 and adopts the latest editions of:

- The TSSA Filed Approval Code TSSA FA-2012; and,

- The TSSA Environmental Management Protocol for fuel handling sites in Ontario TSSA EMP-2012.

For further details please see the Field Approval Code introduction in item 3 above and the EMP introduction in item 7 below.

6. Liquid Fuels Code Adoption Document FS-199-2012

The Liquid Fuels Code Adoption Document (CAD) amendment FS 199-12 will become effective on December 1, 2012 and replaces the previous document issued in 2007

The FS 199-12 adopts:

- TSSA Liquid Fuels Handling Code 2007; and,
- Environmental Management Protocol EMP-2012 for fuel handling sites in Ontario.

The TSSA Liquid Fuels Handling Code 2007 has not been modified since 2007 and can be obtained from the Canadian Standards Association online store: This CAD along with the relevant regulation and the Technical Standards and Safety Act are posted on the TSSA website: www.tssa.org and will be available from the Canadian Standards Association as part of the Ontario package by going to www.csa.ca/tssa or calling (877) 893-8345.

The newly revised EMP-2012 is available on the TSSA website: www.tssa.org and is introduced in item 7 below.

7. Environmental Management Protocol EMP-2012

The Technical Standards and Safety Act, Liquid Fuels Handling Regulation, Liquid Fuels Handling Code (LFHC), Fuel Oil Regulation and Fuel Oil Code (FOC) govern the safe storage and handling of gasoline, fuel oil and associated products in Ontario. Due to the nature of fuel handling operations, when the escape of product into the environment or a building occurs, action must be taken to mitigate and cleanup the damage caused by the release.

The Environmental Management Protocol for Fuel Handling Sites in Ontario (2007) has been updated to ensure that such occurrences are properly mitigated in a safe and timely manner. The application of The Environmental Management Protocol for Fuel Handling Sites in Ontario (2012) (EMP 2012) will ensure continued protection of human and environmental health and safety during fuels handling operations.

The EMP 2012 will be adopted by the Liquid Fuels Handling Code and the Fuel Oil Code making it a legal requirement to follow it's directives.

This Protocol replaces the Technical Standards & Safety Authority's (TSSA's) previous Environmental Management Protocol, dated May 2007. The information in this Protocol is consistent with that contained in the 2007 edition, and provides updated Ministry of Environment (MOE) Site Condition Standards (SCS) consistent with O. Reg. 511/09

(which amended O. Reg 153/04 - Records of Site Condition) and the values contained in the MOE document entitled "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (MOE, April 15, 2011, effective July 1, 2011).

The Protocol will assist a proponent (the owner of the fuel handling equipment, or the property owner on which the fuel handling equipment is installed, or the licensee of the site) in determining whether the site is in compliance with the environmental requirements of the LFHC or the FOC.

This Protocol along with the relevant regulation and the Technical Standards and Safety Act is posted on the TSSA website: www.tssa.org