

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.