



The TSSA Digester, Landfill and Biogas (Waste Gas) Program

What is the TSSA Digester, Landfill and Biogas (Waste Gas) Program?

This program provides for approval of digester plants, landfill sites and bio-gas facilities as covered under the TSSA-DLB-2016 – “TSSA Digester, Landfill and Biogas Approval Code”. This code supersedes the TSSA-DLB-2012.

The TSSA-DLB-2016 code was developed in consultation with the TSSA Gaseous Fuels Advisory Council and the TSSA Digester, Landfill and Biogas Risk Reduction Group.

For the Digester Plants and Landfill Sites and Biogas Plants this code adopts with amendments the CSA B149.6-15 – “**Code for digester gas, landfill gas, and biogas generation and utilization**”.

A biogas plant is a facility which has a digester which produces gas at locations other than a water pollution control plant. This gas is either: stored, transmitted or utilized.

This document establishes TSSA requirements for fuel handling equipment at water pollution control plants, landfill sites and biogas facilities to ensure the safe handling of gas and operation of systems where gas is stored, transmitted or utilized. TSSA has jurisdiction over all fuel handling systems, including fuel handling appliances, equipment and associated piping. The environmental aspect is governed by the Ministry of Environment (MOE).

TSSA does not review, assess or approve the performance of any appliances or equipment, nor the handling of any waste material or the passive ventilation of the gas.

For landfill sites, this code applies to the extraction blower and all downstream equipment, appliances and piping used for the storage, handling, transmission or utilization of gas (i.e., the entire positive pressure side of the gas system). This includes landfill flares. This code does not apply to collection systems located within the perimeter of the landfill or aggregating piping upstream of the first blower.

Why do I Need a TSSA Digester, Landfill and Biogas Approval?

TSSA approval is required for new facilities or at existing facilities that have been modified, upgraded or expanded (For digester tank, if it is cleaned and/or repaired). This requirement has been in place since 2007 for digester plants and landfill sites and has been in place since December 2012 for biogas facilities.

Systems installed prior to the effective date that have not been modified, upgraded or expanded do not require TSSA approval.

When do I Need to Contact TSSA for Approval?

TSSA needs to be contacted and an application form filled out when a new facility has been built or an existing facility has been: modified, upgraded or expanded.

When a digester tank has been cleaned out a pressure test needs to be conducted per the B149.6 code. This testing needs to be witnessed by TSSA.

The approval under this program includes those related to gaseous fuels. It does not include approval of other codes such as electrical, plumbing or building structure.

How do I get my Digester Plant, Landfill Site or Biogas Facility Approved?

You need to apply for a TSSA approval. There are two phases of this approval, Engineering Review and Site Inspection / Testing. Once the Engineering review is completed, a report (known as a design review report) will be issued. Included in this report is the scope of work and the areas which need to be inspected. Upon a successful inspection(s), a final report will be issued stating compliance. It is strongly advisable to submit your design for review prior to the start of the construction as some inspections are required during the construction phase.

What documentation is required along with an Application?

The Application for Approval of Digester Gas, Biogas and Landfill Gas Installations must be submitted to TSSA along with the required documentation and a deposit fee as identified on the application form.

One set of documentation must be submitted with the application. Documentation must include:

- Completed Application;
- Scope of Work Being Conducted;
- Engineering Drawings;
- List of Fuel Burning Appliances;
- Specifications for Valves, Controls and Components; and
- Bill of Materials

Upon receipt of an application and the deposit fee a job will be opened. The submission will be reviewed and if additional information is required, it will be requested from the technical contact as identified on the application form. Upon completion of the engineering review a design review report will be issued. This report will be issued to the owner of the facility, invoicee and the technical contact.

Applications may be submitted electronically to fsubmissions@tssa.org

Fuel Burning Appliances

In Ontario, every natural gas, propane, digester gas, landfill gas, biogas or fuel oil fuelled appliance that is offered for sale, sold, rented, bought or installed must be approved.

There are two forms of approval:

1. Certified as complying with an approved standard or test report by a testing agency accredited by the Standards Council of Canada (SCC); or
2. Field Approved by TSSA

At the time when this document was written there were no certification standards available for appliances to be certified when operated with digester, landfill or biogas. The only option available is a field approval from TSSA. Additional information regarding the field approval program may be obtained by click the following link: <https://www.tssa.org/corplibrary/ArticleFile.asp?Instance=136&ID=F1A74C40562F4639A9CBB450529AB632>

Variations

A variance to any code will be considered. All variance are reviewed by a member of the TSSA engineering department before being presented to the variance committee. Before they are presented there are two fundamental questions asked for each variance:

1. Why can't you meet the code requirements, and
2. What is the equivalent safety?

An application for a variance can be located by clicking the following link: <https://www.tssa.org/CorpLibrary/ArticleFile.asp?Instance=136&ID=7925CAF2DCEA45A4B1756B5C7E7A1C69>

What's involved in a Site Inspection?

A site inspection is prompted by one of the following reasons:

1. New Work - where a new facility has been built, modified, expanded or pressure testing of a digester needs to be conducted. The main purpose of this inspection is to determine compliance with the Design Review Report;
2. Facility Audit – this is where a TSSA inspector performs an inspection at an existing site. He / she will perform the audit in accordance to the current code. If discrepancies are noted, the owner may be eligible to be grandfathered if they can demonstrate the construction was done in accordance with the code of the day; and
3. Reported Incident – Upon receiving a report of an incident involving gas, the inspector will perform an inspection to determine the root cause of the incident and site any deficiencies.

For new work projects, the following areas typically require an inspection by TSSA. Depending on the scope of the work, other items may require an inspection.

- a. Pressure testing of the gas pipe(s);
- b. Inspection of underground piping before it is buried;
- c. Pressure testing of the digester roof(s);
- d. Testing of appliance(s) being field approved, per the guidelines specified in the field approval program; and
- e. Final inspection.

How much does an Approval Cost?

The fees under this program are based on an hourly charge as indicated on the application. Charges are calculated in 15-minute increments. The fees include: engineering review, inspection, travel and administration services.

How long does the Process Take?

Upon receipt of the application and required documentation, the process of initial TSSA review requires 20-30 business days. If subsequent review is necessary, additional time is required. Expedited service is available but the fee charged is two times the standard service rate.

How can I get more Information About this Program?

Please contact TSSA's Fuels Safety Program at (416) 734-3348 / Fax: (416) 231-7525.
If you live outside Toronto, please call us toll-free at (877) 682-TSSA (8772)

You can also visit the Fuels Safety section of our Web site at www.tssa.org or write to us at:

The Technical Standards & Safety Authority
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