



In Building Flammable & Combustible Liquid Storage Tanks (BST) Information Required on Submitted Drawings

Drawings – Three (3) sets of drawings stamped and signed by an engineer licensed to practice in the Province of Alberta as per National Fire Code, Alberta Edition 2019 (NFC-AE). All storage tanks over 230 litres require approval prior to installation. Unless otherwise specified all references are to the NFC-AE or to the National Building Code, Alberta Edition 2019 (NBC-AE).

Storage tank systems using Class I liquids to supply appliances inside buildings shall conform to Part 4 of the NFC-AE and the National Fire Protection Association (NFPA) 37 “Installation and Use of Stationary Combustion Engines and Gas Turbines”.

Storage tank systems for Class II and IIIA liquids shall conform to Part 4 of the NFC-AE when used to supply appliances and to CAN/CSA-B139 “Installation Code for Oil-Burning Equipment”. This CAN/CSA standard is intended for fully self contained “from the factory” units that come with fuel tanks attached to the unit. Any separate tanks requiring on site piping and installation shall comply with the NBC-AE and the NFC-AE.

Emergency generators supplying emergency power to buildings and facilities when the normal power supply fails and emergency power is required by the NBC-AE shall additionally comply with CSA Standard C282-09 “Emergency Electrical Power Supply for Buildings”.

Fuel Line Protection

Where an emergency generator for high buildings (subsection 3.2.6. of the NBC-AE) has a supply of fuel less than 2 hours in the same room as the emergency generator and is supplied with fuel from another tank within the structure the integral fuel piping, pumps, valves, electrical distribution equipment wiring and controls located outside the service room shall be protected from exposure to fire in the building by a construction assembly with a fire resistance rating of not less than 2 hours. NBC-AE 3.2.7.8. and CSA Standard C282-09 “Emergency Electrical Power Supply for Buildings”.

Detail Check Sheet:

- Drawings to have an engineer stamp NFC-AE Division “C” 2.2.3.1.
- Tank constructed to applicable ULC standard 4.3.1.2.
- Secondary containment (double wall tank or room curbing) 4.3.7.
- Clearance of 550mm from walls around the tank(s) 4.3.14.2.
- Venting of storage tank to the exterior 4.3.5.2.
- Bonding and grounding of storage tanks inside buildings 4.3.13.12.
- Method of filling the storage tank (fill pipe or hose from truck) 4.3.6.4.
- Identification of filling and emptying connections 4.3.1.7.
- Placards on exterior of the room indicating product in the room 4.3.14.5.
- Natural or mechanical ventilation of the storage room 4.1.7.1.
- Overfill protection 4.3.1.8.
- Rooms for storage tanks inside buildings shall be separated from the rest of the building by a fire separation having a fire resistance rating of not less than 2 hours. 4.3.14.1.

Additional Requirements

- Rooms for storage tanks in buildings shall be used for no other purposes than the storage and handling of flammable or combustible liquids. NFC-AE 4.3.14.1.
- Fire separations for vertical service spaces shall comply with NBC-AE 3.6.3.1. When fuel lines are placed in these service spaces and the 2 hour rating is not required as per CSA Standard C282-09 (2 hours or more of fuel at the generator) then 3.6.3.1. shall be followed.
- Fire separations for horizontal service spaces to comply with NBC-AE 3.6.4.2.

The installation, alteration and maintenance of any flammable and combustible liquid storage tank system shall comply with the requirements as outlined in the NFC-AE and the NBC-AE and any referenced documents within these codes.

Please submit drawings to;
Calgary Fire Department
Fire Inspections & Investigations
Technical Services

4144 – 11th Street SE
Calgary AB T2G 3H2

Email: Tanks@Calgary.ca

Sept. 2020