



BBS MEMO

Ohio Board of Building Standards

January 13, 2016

6606 Tussing Road, P.O. Box 4009, Reynoldsburg, Ohio 43068-9009

Installation of Generators

Effective January 1, 2016, the Ohio Board of Building Standards (Board) adopted several rule changes intended to clarify the rules addressing the installation of generators. The installation of generators is not specifically required in the building codes. However, in many situations and occupancies the code does require that a standby system or an emergency power system be provided to serve as a backup power source to the primary building electrical system. Where standby systems or emergency power systems are required by the code, or where required by a licensing agency, or where the owner simply chooses to have an optional backup power source to ensure that their building services equipment, hospital equipment, process equipment, computers and/or business operations can remain operational in the event that the primary utility power source fails, a generator is often the preferred choice of backup power.

There are several different types of generators that are typically utilized as backup power sources: portable generators, vehicle-mounted generators, and permanently installed generators. This Memo focuses on permanently installed generators. Most of the time, the permanently installed electric generator is driven by an internal combustion engine which is fueled by either a liquid fuel such as gasoline or diesel fuel or a gaseous fuel such as natural gas.

Among the recent changes made to the rules include adding definitions of "Above-ground storage tank," "Engine-mounted tank," and "Fuel tank" to the Ohio Building Code (OBC), Ohio Mechanical Code (OMC), OPC (Ohio Plumbing Code), and the RCO (Residential Code of Ohio). These definitions were intended to clarify the application of the rules relating to fuel tanks attached to and serving building service equipment such as generators. Additionally, in OBC § 2702.1, a general reference to the fire code was replaced with specific references to applicable standards and new language to address the many different fuel storage arrangements. Similar language was added to OMC § 915 and RCO §§1905 and 3402.

Of particular importance is a clarification of the rules relating to outdoor engine-mounted tanks in OBC § 2702.1.1.1.1.1, OMC § 915.1.1, and RCO §§ 1905.2.1.1 and 3402.1.1.1.1.1. These types of fuel storage tanks are very common. The rules now make a specific reference to NFPA 37 § 4.1.4 which prescribes a minimum distance of 5 feet from a generator (including and engine-mounted tank) to a building. Please note that there are a few exceptions which may allow a lesser distance from an engine-mounted fuel tank/generator to a building.

Another important clarification is a newly added OMC § 1308 and RCO § 2201.2. This change brings the fuel oil and diesel oil piping and storage requirements together in one place, and clarify the allowable fuel oil and diesel oil quantities permitted inside and outside of buildings. The language is similar to the fire code sections 603.3 and 3404.2.9.7.

Depending upon the application and type of generator and the type of fuel supply, there are different code sections and standards that will apply to the design and installation of the generator and fuel supply. It is intended that OBC 2702 and RCO 3402 direct you to the applicable design and installation code and standard requirements.

For example, the general electrical requirements for generators used as Emergency Systems are found in Article 700 of the NFPA 70. Here you will find general requirements such as automatic transfer switches, transfer time (10 seconds), sources of power, fuel supply (2 hours), wiring of circuits, disconnecting means, testing, etc. In addition to complying with the general electrical requirements found in NFPA 70, there are more specific requirements found in NFPA 110 that also apply to emergency power systems. Emergency generators are required to be listed in accordance with UL 2200. Engine-driven generators are required to comply with NFPA 37 and the fuel tanks connected to the emergency generator are required to comply with NFPA 37 or NFPA 30, depending upon the location of the tank.

The general electrical requirements for generators used as Legally Required Standby Systems are found in Article 701 of the NFPA 70. Here you will find general requirements such as automatic transfer switches, transfer time (60 seconds), sources of power, fuel supply (2 hours), wiring of circuits, disconnecting means, testing, etc. In addition to complying with the general electrical requirements found in NFPA 70, there are more specific requirements found in NFPA 110 that also apply to standby power systems. Standby generators are required to be listed in accordance with UL 2200. Just as for emergency power systems, engine-driven generators are required to comply with NFPA 37 and the fuel tanks connected to the standby generator are required to comply with NFPA 37 or NFPA 30, depending upon the location of the tank.

For non-required or optional standby generators, the general electrical requirements can be found in Article 702 of the NFPA 70. In this case the owner decides which building equipment is powered by the generator and for how long the fuel supply will last. Permanently installed optional engine-driven standby power generators are still required to be listed in accordance with UL 2200 and comply with NFPA 110 and NFPA 37. The fuel tanks connected to the optional standby generator are required to comply with NFPA 37 or NFPA 30, depending upon the location of the tanks.

If you have further questions regarding these requirements or would like to be added to our stakeholder list to receive notifications of future rule changes, please call the Board's office at 614-644-2613 or e-mail to BBS@com.state.oh.us.