

GENERATOR – Permit Requirements

7/08/09

The city may require additional information as needed. For preparation information, see description sheet # 1, *Standards for Plans and Drawings*. If you have any questions concerning your application, please visit or call Permit Processing (425-452-4898) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Assistance for the hearing impaired: dial 711 (Telecommunications Relay Service).

Permits Required

Mechanical and electrical permits are required prior to the installation of stationary, hard-wired generators. Systems associated with the generator *can* include (1) optional/standby, (2) legally required/standby, or (3) emergency power systems. Mechanical, Electrical, Fire, and Land Use plan review are required to ensure that all applicable code provisions will be met. A building permit is required when building alterations or additions are anticipated, including but not limited to construction of new exhaust or supply-air shafts, new exterior wall openings, new equipment screens, or if the generator and/or fuel tank is required to be in a separated fire-resistance rated room.

This information sheet specifies the documentation that must be submitted in order to get the permits you need to install all or part of the generator system. The plans must clearly show the scope of work to be permitted. Other portions of the system may need to be shown on the plans in order to confirm code compliance, but the plans must clearly show what is and is not included in the scope of work for the permit you wish to obtain. Required permits must be obtained prior to installation of any part of the generator system.

Mechanical permit submittal requirements (BL folder)

1. A completed mechanical permit application. The specific scope of work must be indicated on the form.
2. A scaled site plan showing the location of all buildings on the site and the generator location (interior or exterior) with setbacks to property lines clearly shown. Streets, alleys, easements, fences, gates, and a north arrow must be shown.
3. If the generator will be located inside the building, provide calculations showing compliance with manufacturer's installation requirements for ventilation supply, exhaust, engine cooling, and combustion-air openings. Provide scaled interior and exterior elevation views showing the location of the generator, ventilation openings (both supply and exhaust), fuel tank vent(s), and the engine exhaust pipe terminal.
4. Plan and elevation views showing the fuel source, tank size and location (if applicable), fuel pipe routes (with minimum required slope noted), generator refueling station location, and pipe size and materials. Fuel piping to generator must comply with IMC Chapter 13.
5. If located inside the building, specify what level of the building the generator and fuel tank are located in.
6. Manufacturers' data sheets on the generator, fuel tank, refueling station, and other equipment to be used in the installation.
7. Physical protection of equipment must be detailed on the plans if the generator fuel tank is located outside. (IMC Section 1305.2)
8. Fuel tank manufacturer's UL listing, single wall or double wall, and size. Specify use of all openings for fuel tank.
9. Information on spill control, secondary containment, and drainage.

See also NFPA 37, which is referenced from IMC Section 915.

Electrical permit submittal requirements (BG folder)

1. Load summary, including each "step" of load (what loads are transferred to the generator at any one time) in starting and running (separate columns totaled) to verify capacity.
2. Location of transfer switches for the emergency and legally required systems.
3. What equipment is on which transfer switch and how long of a delay is allowed for each piece of equipment to come on after the normal power is off.
4. Physical protection of the circuit wiring for pressurization fans and fire pumps from the generator to the fan(s) and pumps.

5. Sizing of the generator conductors between the generator and first over-current device.
6. One line or riser diagram showing the connections to the electrical system, conduit and wire sizes, transfer switch characteristics, and generator sizing.

See also the "2007 Emergency Power Supply Systems – Generators Reminder List" for applicable codes and standards.

Building permit submittal requirements (ask a permit tech for applicable permit folder type and typical submittal requirements for the scope of work to be completed))

Common building code issues associated with generator installations:

1. Seismic/gravity anchoring and support per ASCE 7-05 Section 13.1.3. See sheet #68, Seismic Bracing Matrix, for more information.
2. Not less than a 1-hour fire barrier is required if the building has a smoke control system per IBC Section 909.11. For high-rise buildings an emergency power system and automatic transfer switch (ATS), if set inside the building, must be located in a separate room enclosed with 2-hour fire barriers. IBC Section 403.10.1.
3. Control and power wiring serving shaft pressurization fans must be provided with 2-hour fire-rated protection. Illustrate this on the building plans. See IBC Section 990.20.6.1.
4. Where an on-site, stand-alone fuel storage tank is provided, the size, type, and location must be identified. The applicant must specify occupancy classification for on-site fuel storage.
5. Combustion, cooling, and ventilation air needs to be from an exterior wall opening without dampers, shutters, or other devices. NFPA 110 Section 7.7 and IBC Section 909.11.
6. Equipment screen and platform design details, if applicable, must be provided for review.
7. Shafts used to provide exhaust, combustion air, and/or make-up air must comply with IBC Section 707. Complete shaft assembly listing numbers and associated details must be provided.

Land Use submittal requirements

1. The ventilation openings and engine exhaust pipes, when visible from the street, need to be designed in a manner that will not detract from the building design.
2. All residential mechanical equipment installation must conform to the City of Bellevue Noise Code Standards: Day 55dBA – Night 45dBA.
3. Elevation sheet to scale showing height of all equipment (existing and proposed), screening and/or landscaping, and color of screening and equipment if located in a design district.
4. If located in a design district or a project that required an Administrative or full Conditional Use permit, a separate Land Use Exemption permit is required.

Fire Department submittal requirements

Any type of generator or power system at any location is covered in the Fire Code and NFPA Standards.

Common fire code issues associated with generator installation:

1. Class I, II (diesel), and IIIA flammable and combustible liquid fuel systems are covered in IFC Chapters 27 & 34.
2. Venting of fuel tanks must comply with IFC Section 3404 and IMC Section 1305.7.
3. Fuel oil piping systems covered in IFC Chapters 27 & 34.
4. Refueling of Class I, II, and IIIA tanks covered in IFC Section 3404.
5. Emergency and standby power systems covered in IFC Section 604.
6. Fuel fire appliances covered in IFC Section 603.
7. Propane Tanks covered in IFC Chapter 38.
8. Fuel capacity driven by the requirements for fire pumps -- NFPA 20 Section 9.6.2.2. See also BCC 23.10, Table 403.(1).
9. Containment requirements are found in IBC 415, IFC Chapter 27, IFC Chapter 34.
10. Emergency and Standby Power Systems – IFC 604
11. Propane tanks must be located in accordance with IFC Chapter 38.

Note: A Fire Department Operational Permit is required before any propane tank can be filled (IFC 105).

Exception: R-3 occupancy with tanks of 500 gallons or less.