



County of Gloucester

Building Inspections Department  
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## Residential Generators

### Guidelines for Proper Installation and Inspections

The following are helpful guidelines for a proper generator installation. Compliance with these guidelines should help with the installation as well as the inspection process. PLEASE NOTE: This is not intended to be an all-inclusive installation document, refer to the National Electrical Code (NEC) for any additional requirements.

#### **General Requirements:**

**Clearances to Combustibles:** Generators are required to be placed a minimum of 5'-0" from any combustible structure or wall, 4.1.4, NFPA 37. Exception – If the manufacturer's specs allow a minimum clearance closer than 5'-0" a copy of the manufacturer's specs along with test data must be submitted with the application for the permit.

**Clearances from Openings:** Generators are required to be placed a minimum of 5'-0" away from any opening in a building. Openings are defined as windows, doors, foundation vents and vents such as dryer, bathroom, kitchen hood exhausts. PLEASE NOTE: Units that are permitted to be placed closer than 5'-0" to combustibles per the manufacturer's specs and test data are still required to be 5'-0" from these openings.

#### **Inspections:**

There are only two (2) inspections that are required. A **Rough-In Inspection** and a **Final Electrical/Mechanical Generator Inspection**. It is the responsibility of the contractor who is managing the installation to call (804) 693-2744 to schedule these inspections when the work is completed and ready for inspection.

**Both the required electrical and mechanical (gas) permits shall be issued prior to requesting the Rough-In Gas Inspection.**

#### **Rough-In Gas Inspection**

All of the items below will be inspected as part of the **Generator Rough-In Inspection**. Please have both the electrical underground and gas pipe underground ready for inspection on the day you have scheduled same. **This inspection shall not be scheduled until all of the following are completed and ready for inspection.**

##### **Electrical underground – [if applicable]**

All conduit shall be placed a minimum of 18" below grade.

##### **Gas pipe underground – [if applicable]**

All pipe shall be placed a minimum of 12" below grade.

A Tracer Wire [18 AWG minimum] is required to be placed in trench with all plastic UG gas piping.

Plastic gas pipe shall not enter a building through a foundation wall or be installed under a slab.

##### **Gas pipe pressure test –**

Minimum of 5 psig or 1/2 of the pressure gage.

## **Final Generator Inspection**

This final inspection shall not be scheduled until the generator installation is complete – this includes both electrical and gas work. A copy of the manufacturer’s specifications and installation instructions are required to be on site for the inspection. Failure to have these documents on site will be cause for refusal of the inspection.

### **Electrical**

Opening of energized electrical equipment. The electrician [or his representative] who holds the electrical permit for the generator installation shall be on site at the time of this **Final Generator Inspection** to open all equipment to allow for the proper inspection.

Electrical Load. The county inspector will witness the safe operation of the Generator and Transfer Switch. Where automatic transfer equipment is used, the generator shall be capable of supplying the full connected electrical load or will be capable of automatically managing (shedding) the connected load. The electrician shall provide a test meter to verify proper voltage and frequency.

Signage: A sign shall be placed at the service-entrance equipment that indicates the type and location of the on-site optional standby power source(s).

### **Gas Piping**

Bonding: Unless listed to not require bonding, all new and existing gas piping will be required to be bonded using a minimum #6 copper bonding conductor terminated in the electrical service panel or at the service grounding electrode(s).

## **HELPFUL INSTALLATION CHECKLIST**

- Control and Feeder circuits in separate conduits. [NEC 700.10 (D) (3)]
- If PVC is used then Schedule 80 is required where subject to damage, such as lawnmower or string trimmer. [NEC 300.5 (D) (4)]
- Raceway is secured and supported. [NEC 352.30 (PVC)]
- Disconnect or Overcurrent Protection Device (OCPD) installed. [NEC 700.12 (B) (6)]
- Equipment must be listed and labeled. [NEC 110.3]
- Must bear a Testing Agencies Mark. [NEC 110.3(B)]
- Automatic Transfer --Service Rated for Optional Standby Systems. [NEC 225.36]
- Check for properly Listed Breakers. [NEC 110.3]
- Check for Plastic Bushings if wire size is greater than #4 AWG. [NEC 300.4(G)]
- Check for Anti-Oxidant paste on Aluminum (AL) Conductors. [NEC 110.14]
- Raceway is Secured and Supported. [NEC 300.4(G)]
- Grouping of Disconnects. [NEC 230.72]
- Sealing of conduits entries. [NEC 312.2]
- Determine solidly grounded or separately derived. [NEC 250.32 (B) (2)]

## **GROUNDING AND BONDING**

1. Check for separated Neutrals and Grounds after service disconnect. Such as ranges, dryers subpanels, etc. [NEC 250.30(A & B)]
2. Generator Equipment Ground properly sized. [NEC 250.66 OR NEC 250.122]
3. If required, the Grounding Electrode System is properly installed. [NEC 250.50]
4. Proper Grounding Connections in Use. [NEC 250.8]
5. Check for Ground Strap in Generator. [NEC 250]
6. Check for ground rod for the generator shell for lightning protection only if required per the manufacturers installation instructions