

# 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:

**Permits:** Both the required electrical and mechanical (gas) must be on the permit request prior to the permit issuance.

**Inspections:** The inspections that are required are dependent upon the installation. A Final Electrical Inspection and a type of Gas Piping are required. It is the responsibility of each contractor listed on the permit to call to schedule these inspections when the work is completed and ready for inspection. Submittal of required documentation does not constitute a request for inspection.

### Final Generator Inspection

This final inspection shall not be scheduled until the generator installation is complete this includes both electrical and gas work.

#### Electrician

- Load calculations for automatic transfer systems (NEC 220): If calculated loads exceed the listing of the generator, load shedding provisions will be required. These calculations, referencing permit number and client, shall be submitted to the Building Department prior to requesting any inspections.
- A copy of the manufacturer's installation instructions is required to be on site for the inspection. Failure to have these documents on site will be cause for considering the job not ready for inspection.

#### Gas Piping

- If the gas yard line is to be tested as authorized by GS 143-139.3- *Installation of liquified petroleum gas piping systems for residential structures*, the certification, referencing permit number and client, shall be submitted to the Building Department prior to requesting any inspections. If the installer does not certify the yard line, a test must be placed on the system for confirmation by the code enforcement official.

The items below will be inspected as part of the generator inspection. Please have both the electrical and gas piping ready for inspection on the day you have scheduled. This inspection shall not be scheduled until all the following are completed and ready for inspection:

- Clearances to Combustibles: Generators are required to be placed in compliance with G2455.1 (NCFG 616.1), NFPA 37 and the manufacturer's installation instructions.
- Clearances from Openings: Generators are required to be placed in compliance with G2455.1 (NCFG 616.1), NFPA 37 and the manufacturer's installation instructions. Openings are defined as windows, doors, foundation vents and vents such as dryer, bathroom, kitchen hood exhausts. PLEASE NOTE: Clearance to combustibles distance does not supersede clearance to openings.

- Electrical underground shall comply with NEC T300.5
- Gas pipe underground shall comply with G2415.12 (NCFG 404.12), G2415.17 (NCFG 404.17)
- Gas pipe pressure shall be tested in accordance with G2417.4 (NCFG 406.4)
- Signage shall comply with NEC 702.7
- Gas piping bonding shall comply with NEC 250.104(3)(B)
- Sediment trap shall comply with G2419.4 (NCFG 408.4)
- Raceway subject to damage shall comply with NEC 300.5(D)(4)
- Disconnecting means shall comply with NEC 702.12
- Automatic transfer equipment used as service equipment shall comply with NEC 702.5
- Insulated fittings shall comply with NEC 300.4(G)
- Raceway securing and supporting shall comply with NEC 300.11
- Grouping of disconnects shall comply with NEC 230.72
- Sealing of raceways shall comply with NEC 300.7
- Grounds and neutrals shall comply with NEC 250.30(B)(1)
- Generator equipment ground shall comply with NEC 250.66 or NEC 250.122 depending on installation
- Generator installations using automatic transfer equipment as service equipment must comply with NEC 250.50
- Generator frame bonding shall comply with NEC 250.4(A)(3)

If you have questions, please contact the Transylvania County Building and Permitting Department (828)884-3209.