

PSC NO: 119 ELECTRICITY
NEW YORK STATE ELECTRIC & GAS CORPORATION
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GENERAL INFORMATION

9. Distributed Generation Interconnection Requirements (Cont'd.)

F. II. Interconnection Requirements for New Distributed Generators 300 kVA or Less, or Farm Waste Generators of 400 kW or Less, Connected to Radial Distribution Lines (Cont'd.)

b. Three-Phase Inverters and Relays (Cont'd.)

The tests shall include:

Test 3: With the generator and inverter output stabilized at 60 Hz and 100% of rated voltage (120 V rms) and the inverter output between 0.5 and 1.0 per unit power, ramp the generator voltage down to 87% of rated (105 V rms) at a rate no greater than 5 volts per second. Measure and record the frequency and voltage. The frequency must remain within 0.2 Hz of 60 Hz and the voltage must not drop below 82% of rated (99 V rms). The inverter must cease to export power within two seconds (120 cycles) of the first half-cycle reaching 85% of rated voltage (145 V) peak to neutral. Repeat the test with the inverter output below 0.1 per unit power.

Test 4: Insert a tapped transformer and a breaker between A phase of the generator and A phase of the inverter arranged such that when the breaker is opened or closed, A phase of the inverter receives four-fifths the voltage of the generator. With the generator and inverter output stabilized at 60 Hz and 107% of rated voltage (128 V rms) and the inverter output between 0.5 and 1.0 per unit power, operate the breaker so that A phase of the inverter only receives 87% of rated voltage (105 V rms). Measure and record the frequency and voltage. The frequency must remain within 0.2 Hz of 60 Hz and the voltage may not drop below 82% of rated (99 V rms) on A phase of the inverter, or below 92% of rated (110 V rms) on B or C phases of the inverter. The inverter must cease to export power within two seconds (120 cycles) of when the first half cycle of voltage on A phase of the inverter drops below 85% of rated (145 V) peak to neutral. Repeat the test applying low voltage to B and C phases. And repeat the test for all phases with the inverter output below 0.1 per unit power.

Test 5: With the generator and inverter output stabilized at 60 Hz and 100% of rated voltage (120 V rms) and the inverter output between 0.5 and 1.0 per unit power, ramp the generator frequency up to 60.6 Hz at a rate no greater than 0.5 Hz/second. Measure and record the frequency and voltage. The voltage must remain between 96% (115 V rms) and 104% of rated (125 V rms) and the frequency must not exceed 60.8 Hz. The inverter must cease to export power within six cycles of the frequency exceeding 60.5 Hz (8.25 ms between zero crossings). Repeat the test with the inverter output below 0.1 per unit power.

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