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Rochester Gas and Electric Corporation  
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### GENERAL INFORMATION

## 10. DISTRIBUTED GENERATION INTERCONNECTION REQUIREMENTS (Cont'd)

**Test 1:** 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 up to 111% of rated (133 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 may not exceed 114% of rated (137 V rms). The inverter must cease to export power within two seconds (120 cycles) of the first half-cycle reaching 111% of rated voltage (188 V) peak to neutral. Repeat the test with the inverter output below 0.1 per unit power.

**Test 2:** 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 half the voltage of the generator. With the generator and inverter output stabilized at 60 Hz and 99% of rated voltage (119 V rms) and the inverter output between 0.5 and 1.0 per unit power, operate the breaker so A phase of the inverter only receives 48% of rated voltage (58 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 46% of rated (55 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 six cycles of when the first half cycle of voltage on A phase of the inverter drops below 49% of rated (83 V) peak to neutral. Repeat the test applying half voltage to B and C phases. And repeat the test for all phases with the inverter output below 0.1 per unit power.

**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.

ISSUED BY: James A. Lahtinen, Vice President Rates and Regulatory Economics, Rochester, New York