

**TESTING AND MONITORING RECOMMENDATIONS <sup>1</sup>**  
**FOR EXISTING RECIPROCATING INTERNAL COMBUSTION ENGINES (Except Emergency Generators)**

**Natural Gas / Propane**

<b>Size (Single engine)</b>	<b>Combustion Process Adjustment</b>	<b>Periodic Monitoring Procedure (PMP<sup>2,6</sup>)</b>	<b>Stack Test<sup>4,5,7</sup></b>
37 kW ≤ Power Output < 148 kW (50 HP ≤ Power Output < 200 HP)	<b>If used for generating electricity:</b> According to the manufacturer's recommended procedures and maintenance schedule.	CO and NOx, Annually	None <sup>7</sup>
148 kW ≤ Power Output < 370 kW (200HP ≤ Power Output < 500 HP)	<b>If used for generating electricity:</b> According to the manufacturer's recommended procedures and maintenance schedule.	CO and NOx, Semiannually <sup>3</sup>	None <sup>7</sup>
370 kW ≤ Power Output < 1480 kW (500HP ≤ Power Output < 2000 HP)	According to the manufacturer's recommended procedures and maintenance schedule.	CO and NOx, Quarterly <sup>3</sup>	CO and NOx, Every 5 years.
Power Output ≥ 1480 kW (Power Output ≥ 2000 HP)	According to the manufacturer's recommended procedures and maintenance schedule.	CO and NOx, Monthly <sup>3,8</sup>	CO, NOx, and VOC, Every 5 years.

<sup>1</sup>. Modifications / Renewals: This chart shall be used to update the testing and the monitoring requirements of equipment, for which a modification, that is not a Title I modification, has been submitted for approval and to update the testing and the monitoring requirements at the time of operating permit renewal.

<sup>2</sup>. PMP results must be calculated in lb/hr.

<sup>3</sup>. A facility may request to reduce PMP frequency; see RICE PMP Frequency Reduction Guidance.

<sup>4</sup>. A Continuous Emission Monitor (CEM) can replace stack testing if the CEM monitors and records in equivalent units (e.g. A stack testing requirement for VOC in lb/hr may only be replaced by a CEM recording VOC in lb/hr) and the Relative Accuracy Test Audit (RATA) data meets CO and NOx limits in lb/hr and ppmvd at 15% Oxygen for two consecutive years. A CEM may replace subsequent stack testing requirements, but cannot nullify the need for the initial stack test, which establishes the emission rates to be monitored by a CEM.

<sup>5</sup>. The first stack test must be performed at the same time as a PMP for CO and NOx.

<sup>6</sup>. For an engine with a CEM installed, the CEM must be used instead of the PMP for the parameters it is currently monitoring. For parameters not monitored by CEMS, the PMP shall be followed.

<sup>7</sup>. MACT ZZZZ (NESHAP for Reciprocating Internal Combustion Engines) may require additional stack testing at greater frequencies than the tests required by this Testing and Monitoring Recommendations. A permit writer shall review MACT ZZZZ applicability during the technical review of the modification or renewal operating permit application. Facilities are required to demonstrate compliance with MACT ZZZZ, which is effective as of October 19, 2010.

<sup>8</sup>. If an engine operates intermittently, it does not have to have PMP performed if it is operated less than 200 hours during that month, unless the engine has operated 200 or more hours since the engine last had PMP performed; in that case, PMP must be performed during any month that the engine reaches 200 hours of operation since the last PMP.