

## PART 222, DISTRIBUTED GENERATION

### Subpart 222-1, Distributed Generation Sources Commencing Operation on or After May 1, 2005

#### §222-1.1 Applicability.

The provisions of this Subpart apply to owners and operators of distributed generation sources with a maximum electrical output rating greater than or equal to 50 kilowatts that commence operation on or after May 1, 2005.

#### §222-1.2 Definitions.

(a) To the extent that they are not inconsistent with the specific definitions in subdivision (b) of this section, the general definitions of Part 200 of this Title apply to this Subpart.

(b) For the purposes of this Subpart, the following definitions apply:

(1) ‘Biogas’. Gaseous fuel generated in an anaerobic animal waste digester, wastewater treatment plant, or solid waste landfill.

(2) ‘Commence operation’. To have begun any mechanical, chemical, or electronic process including the start-up of the combustion chamber of a distributed generation source at a facility.

(3) ‘Cumulative electrical output’. The sum of the maximum electrical output of the biogas-fired sources located at a facility.

(4) ‘Distributed generation source’. Any stationary internal combustion engine used to produce electricity for use at the facility at which it is located.

(5) ‘Nominal full load’. The maximum rating a source can be operated at on a continuous basis.

(6) ‘Tune-up’. Adjustments made to the combustion process in order to optimize combustion efficiency of the source in accordance with procedures provided by the manufacturer or an approved specialist.

#### §222-1.3 Prohibition.

Maintenance and testing of emergency power generating stationary internal combustion engines may not be conducted between the hours of 1:00 pm and 8:00 pm during the period of May 1 through October 15 of each year.

#### §222-1.4 Control Requirements.

(a) ‘NO<sub>x</sub> Emission Limits’ (pounds/megawatt-hour).

Source Type	NO <sub>x</sub> Emission Limits that Apply to Sources that Commence Operation on or after:		
	May 1, 2005	January 1, 2009	January 1, 2010
Emergency power generating stationary internal combustion engines	16.0	16.0	6.0
Biogas-fired sources located at facilities where the cumulative electrical output is 180 kilowatts or greater	4.40	4.40	4.40
Biogas-fired sources located at facilities where the cumulative electrical output is less than 180 kilowatts	No Emission Limit	4.40	4.40
All other sources	1.60	1.60	1.60

(1) If more than one emission limit in this subdivision applies to a source, the least stringent emission limit should be applied.

(b) ‘CO Emission Limits’.

(1) The following carbon monoxide emission limits apply to sources that commence operation on or after May 1, 2005:

(i) Biogas-fired source(s) located at a facility where the cumulative electrical output is 180 kilowatts or greater: 10.0 pounds per megawatt-hour

(ii) Biogas-fired source(s) located at a facility where the cumulative electrical output is less than 180 kilowatts: no emission limit applies

(iii) All other sources subject to this Subpart: 6.50 pounds per megawatt-hour

(2) All biogas-fired sources subject to this Subpart that commence operation on or after January 1, 2009 must be in compliance with a carbon monoxide emission limit of 10.0 pounds per megawatt-hour.

(3) If more than one emission limit in this subdivision applies to a source, the least stringent emission limit should be applied.

(c) 'PM-10 emission limits'. Effective January 1, 2008, all diesel-fired distributed generation sources subject to this Subpart must be in compliance with one of the following:

- (1) a PM-10 emission limit of 0.10 pounds per million British thermal units; or
- (2) the sulfur content of diesel fuel used to fire the source must be 15 parts per million or less and the distributed generation source must be equipped with a particulate control device designed to remove 85 percent or more of the PM-10 from the exhaust stream.

(d) 'Tune-up'. Each distributed generation source must be tuned-up at least once every 12 months using the procedures recommended by the manufacturer or an approved specialist. The first tune-up must be conducted within 12 months after the source commences operation.

#### §222-1.5 Emissions testing.

(a) An emissions test must be conducted within 120 days after the source commences operation to demonstrate that the source is compliant with the emission limits set forth in section 222-1.4 of this Subpart. A facility that installs two or more distributed generation sources of the same model number and model year may conduct emissions testing on one source. The results from such emissions test apply to all like sources at the facility.

(b) Except for emergency power generating stationary internal combustion engines, emissions testing must be conducted after every 15,000 hours of operation of each distributed generation source or by the end of every fifth year of operation, whichever is later.

(c) 'Exceptions'.

(1) Sources fired with diesel fuel with a sulfur content of 15 parts per million or less and equipped with a particulate control device designed to remove 85 percent or more of the PM-10 from the exhaust stream are not subject to any PM-10 emissions testing requirements set forth in this Subpart. A certification from a professional engineer that the pollution control device meets the above requirement must be submitted to the Department by December 31, 2007 or 120 days after the source commences operation, whichever is later.

(2) A distributed generation source that has been certified under the California Air Resources Board's Distributed Generation Certification Program as set forth in California Code of Regulations, title 17, sections 94200 through 94214 (see Table 1, section 200.9 of this Title), or another certification program approved by the Department, is exempt from the emissions testing requirement of subdivision 222-1.5(a) of this Subpart. A copy of the certification must be submitted to the Department within 60 days after the certified source commences operation.

(d) 'Emission Test Requirements'.

(1) The owner or operator of a distributed generation source must notify the Department in writing at least 60 calendar days prior to the scheduled date of an emissions test. The Department may require that a written protocol be submitted for review and approval. In such case, the emissions test may not commence until 15 calendar days following the Department's approval of the written protocol.

(2) 'Emission test methods'. The following EPA test methods must be used:

- (i) NO<sub>x</sub>: Method 7E pursuant to 40 CFR 60, Appendix A;
- (ii) CO: Method 10 pursuant to 40 CFR 60, Appendix A;
- (iii) PM-10: Method 201 or Methods 201A and 202 combined pursuant to 40 CFR 51, Appendix M.

(3) 'Additional protocols'.

(i) Each emissions test must be conducted at the nominal full load of the source for each pollutant for which there is an applicable emission limit.

(ii) The span of the monitoring system must be selected such that the pollutant gas concentration equivalent to the emission limit is not less than 30 percent of the span.

(iii) The electricity generated during an emissions test must be measured and reported in units of kWh or MWh.

(4) 'Emission test reports'. Owners and operators of a distributed generation source must submit three copies of the emission test reports to the Department within 60 calendar days after the completion of the tests.

§222-1.6 Record keeping.

(a) The results from emission tests must be maintained at a facility for a period of five years.

(b) Records of tune-ups must be maintained in a bound log book or other format approved by the Department. The log book must be kept at the facility for at least five years after the date of the last entry and must be made available to the Department upon request. The following information must be contained in the log book for each tune-up:

- (1) the date on which each distributed generation source was tuned-up;
- (2) the name, title and affiliation of the person(s) who conducted the tune-up;
- (3) descriptions of the tasks performed during the tune-up; and
- (4) any other information that the Department may require as a condition of approval of any permit.

(c) Operational data must be maintained in a format acceptable to the Department at the facility for a period of five years for each distributed generation source subject to an emission limit set forth in section 222-1.4 of this Subpart. Such data must be made available to the Department upon request. The following data must be recorded for each month:

- (1) hours of operation;
- (2) type and quantity of fuel(s) used;
- (3) the gross electricity produced in units of megawatt-hours;
- (4) for diesel-fired sources, the total heat input to the source in units of million British thermal units;
- (5) emissions of pollutants for which the source is subject to an emission limit set forth in Section 222-1.4 of this Subpart using the emission rates from the most recent emissions test for the source; and
- (6) the annual emissions of each pollutant reported on a 12-month rolling basis.

Subpart 222-2, Distributed Generation Sources that Commenced Operation Prior to May 1, 2005

§222-2.1 Applicability.

(a) The provisions of this Subpart apply to owners and operators of distributed generation sources that commenced operation prior to May 1, 2005 that are not located at a major stationary source for NO<sub>x</sub> provided that:

- (1) the maximum electrical output rating is greater than or equal to 150 kilowatts for sources located in a severe ozone nonattainment area; or
- (2) the maximum electrical output rating is greater than or equal to 300 kilowatts for sources located outside of a severe ozone nonattainment area.

(b) Emergency power generating stationary internal combustion engines are only subject to the requirements set forth in sections 222-2.4(c), 222-2.7(b), 222-2.7(c)(1) and 222-2.7(c)(2) of this Subpart.

§222-2.2 Definitions.

(a) To the extent that they are not inconsistent with the specific definitions in subdivision (b) of this section, the general definitions of Part 200 of this Title apply to this Subpart.

(b) For the purposes of this Subpart, the following definitions apply:

- (1) 'Biogas'. Gaseous fuel generated in an anaerobic animal waste digester, wastewater treatment plant, or solid waste landfill.

(2) 'Commence operation'. To have begun any mechanical, chemical, or electronic process including the start-up of the combustion chamber of a distributed generation source at a facility.

(3) 'Distributed generation source'. Any stationary internal combustion engine used to produce electricity for use at the facility at which it is located.

(4) 'Lean burn internal combustion engine'. Any stationary internal combustion engine that is operated so that the amount of oxygen in the engine exhaust is 1.0 percent or more by volume on a dry basis.

(5) 'Microturbine'. Any stationary internal combustion engine that operates with a rotary motion and has a maximum electrical output less than 250 kilowatts.

(6) 'Nominal full load'. The maximum rating a source can be operated at on a continuous basis.

(7) 'Rich burn internal combustion engine'. Any stationary internal combustion engine that is not a lean burn internal combustion engine.

(8) 'Tune-up'. Adjustments made to the combustion process in order to optimize combustion efficiency of the source in accordance with procedures provided by the manufacturer or an approved specialist.

(9) 'Turbine'. Any stationary internal combustion engine that operates with a rotary motion and has a maximum electrical output of 250 kilowatts or greater.

### §222-2.3 Prohibition.

Maintenance and testing of emergency power generating stationary internal combustion engines may not be conducted between the hours of 1:00 pm and 8:00 pm during the period of May 1 through October 15 of each year.

### §222-2.4 Control Requirements.

(a) The NO<sub>x</sub> emission limits that apply to sources that commenced operation prior to May 1, 2005 are presented below.

(1) The following NO<sub>x</sub> emission limits take effect on January 1, 2008:

(i) Microturbines fired with any fuel other than biogas: 1.60 pounds per megawatt-hour

(ii) Natural gas-fired turbines: 50 parts per million by volume on a dry basis corrected to 15 percent oxygen

(iii) Diesel-fired turbines: 100 parts per million by volume on a dry basis corrected to 15 percent oxygen

- (iv) Natural gas-fired lean burn engines: 3.0 grams per brake horsepower-hour
- (v) Natural gas-fired rich burn engines: 2.0 grams per brake horsepower-hour
- (vi) Diesel-fired engines: 9.0 grams per brake horsepower-hour

(2) The following NO<sub>x</sub> emission limits take effect on January 1, 2010:

- (i) Biogas-fired microturbines: 4.40 pounds per megawatt-hour
- (ii) Biogas-fired turbines: 50 parts per million by volume on a dry basis corrected to 15 percent oxygen
- (iii) Biogas-fired lean burn engines: 3.0 grams per brake horsepower-hour
- (iv) Biogas-fired rich burn engines: 2.0 grams per brake horsepower-hour

(b) ‘PM-10 emission limits’. Effective January 1, 2008, all diesel-fired distributed generation sources subject to this Subpart must be in compliance with one of the following:

- (1) a PM-10 emission limit of 0.10 pounds per million British thermal units; or
- (2) the sulfur content of diesel fuel used to fire the source must be 15 parts per million or less and the distributed generation source must be equipped with a particulate control device designed to remove 85 percent or more of the PM-10 from the exhaust stream.

(c) ‘Tune-up’. Each distributed generation source must be tuned-up at least once every 12 months using the procedures recommended by the manufacturer or an approved specialist. The first tune-up must be conducted within 12 months after the source commences operation or by December 31, 2005, whichever is later. §222-2.5 Variances from the NO<sub>x</sub> emission limits for distributed generation sources subject to this Subpart. The owner or operator of a source that cannot meet the emission limit(s) set forth in section 222-2.4 of this Subpart may submit a request to the Department for a higher source-specific emission limit. The owner or operator of such a source must demonstrate to the satisfaction of the Department that it is technically infeasible to meet the applicable emission limit. Such requests shall be granted or denied at the discretion of the Director of the Division of Air Resources.

§222-2.6 Emissions testing.

(a) An emissions test must be conducted no later than December 31, 2007 except for biogas-fired sources for which an emissions test must be conducted by December 31, 2009. Thereafter, emissions testing must be conducted after every 15,000 hours of operation of the distributed generation source or by the end of every fifth year of operation, whichever is later.

(b) 'Exception'.

Sources fired with diesel fuel with a sulfur content of 15 ppm or less and equipped with a particulate control device designed to remove 85 percent or more of the PM-10 from the exhaust stream are not subject to any PM-10 emissions testing requirements set forth in this Subpart. A certification from a professional engineer that the pollution control device meets the above requirement must be submitted to the Department by December 31, 2007.

(c) 'Emission Test Requirements'.

(1) The owner or operator of a distributed generation source must notify the Department in writing at least 60 calendar days prior to the scheduled date of an emissions test. The Department may require that a written protocol be submitted for review and approval. In such case, the emissions test may not commence until 15 calendar days following the Department's approval of the written protocol.

(2) 'Emission test methods'. The following EPA test methods must be used:

(i) NO<sub>x</sub>: Method 7E pursuant to 40 CFR 60, Appendix A;

(ii) CO: Method 10 pursuant to 40 CFR 60, Appendix A;

(iii) PM-10: Method 201 or Methods 201A and 202 combined pursuant to 40 CFR 51, Appendix M.

(3) 'Additional protocols'.

(i) Each emissions test must be conducted at the nominal full load of the source and for each pollutant for which there is an applicable emission limit.

(ii) The span of the monitoring system must be selected such that the pollutant gas concentration equivalent to the emission limit is not less than 30 percent of the span.

(4) 'Emission test reports'. Owners and operators of a distributed generation source must submit three copies of the emission test reports to the Department within 60 calendar days after the completion of the tests.

§222-2.7 Record keeping.

(a) The results from emission tests must be maintained at a facility for a period of five years.

(b) Records of tune-ups must be maintained in a bound log book or other format approved by the Department. The log book must be kept at the facility for at least five years after the date of the last entry and must be made available to the Department upon request. The following information must be contained in the log book for each tune-up:

- (1) the date on which each distributed generation source was tuned-up;
- (2) the name, title and affiliation of the person(s) who conducted the tune-up;
- (3) descriptions of the tasks performed during the tune-up; and
- (4) any other information that the Department may require as a condition of approval of any permit.

(c) Operational data must be maintained in a format acceptable to the Department at the facility for a period of five years for each distributed generation source subject to an emission limit set forth in section 222-2.4 of this Subpart. Such data must be made available to the Department upon request. The following data must be recorded on a monthly basis.

- (1) hours of operation;
- (2) type and quantity of fuel(s) used;
- (3) the gross electricity produced in units of megawatt-hours;
- (4) for diesel-fired sources, the total heat input to the source in units of million British thermal units;
- (5) emissions of pollutants for which the source is subject to an emission limit set forth in Section 222-2.4 of this Subpart using the emission rates from the most recent emissions test for the source; and
- (6) the annual emissions of each pollutant reported on a 12-month rolling basis.