

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF ENVIRONMENTAL PROTECTION

310 CMR 7.00 AIR POLLUTION CONTROL REGULATIONS

310 CMR 7.29 EMISSIONS STANDARDS FOR POWER PLANTS

7.29: Emissions Standards for Power Plants

(1) Purpose and Scope. The purpose of 310 CMR 7.29 is to control emissions of nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), \*.\*.\* (together "pollutants") from affected facilities in Massachusetts. 310 CMR 7.29 accomplishes this by establishing output-based emission rates for NO<sub>x</sub>, SO<sub>2</sub> \*.\*.\*.

(2) Definitions. The definitions in 310 CMR 7.00 apply to 310 CMR 7.29. However, the terms below have the following meanings when they appear in 310 CMR 7.29. If a term is defined both in 310 CMR 7.00 and in 310 CMR 7.29(2), the definition in 310 CMR 7.29(2) applies for the purpose of 310 CMR 7.29.

Actual Emissions for a facility means that facility's total annual emissions expressed in tons for each pollutant, as measured and reported in accordance with 310 CMR 7.29(7).

Affected Facility means a facility which emitted greater than 500 tons of SO<sub>2</sub> and 500 tons of NO<sub>x</sub> during any of the calendar years 1997, 1998 or 1999 and which includes a unit which is a fossil fuel fired boiler or indirect heat exchanger that:

- (a) is regulated by 40 CFR Part 72 (the Federal Acid Rain Program);
- (b) serves a generator with a nameplate capacity of 100 MW or more;
- (c) was permitted prior to August 7, 1977; and
- (d) had not subsequently received a Plan Approval pursuant to 310 CMR 7.00: *Appendix A* or a Permit pursuant to the regulations for Prevention of Significant Deterioration, 40 CFR Part 52, prior to October 31, 1998.

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\*.\*.\* Note: EPA only approved the SO<sub>2</sub> and NO<sub>x</sub> requirements of 310 CMR 7.29 into the Massachusetts State Implementation Plan (SIP).

Alternative Monitoring System means a system or a component of a system designed to provide direct or indirect data of mass emissions per time period, pollutant concentrations, or volumetric flow, that is demonstrated to the Administrator as having the same precision, reliability, accessibility, and timeliness as the data provided by a certified CEMS or certified CEMS component in accordance with 40 CFR Part 75.

Ash means bottom ash, fly ash or ash generated by an ash reduction process derived from combustion of fossil fuels, carbon or other substances.

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Block Hourly Average means the average of all valid emission concentrations when the affected unit is operating, measured over a one-hour period of time from the beginning of an hour to the beginning of the next hour.

Calendar Quarter means any consecutive three-month period (nonoverlapping) beginning January 1<sup>st</sup>, April 1<sup>st</sup>, July 1<sup>st</sup> or October 1<sup>st</sup>.

Calendar Year means any period beginning January 1<sup>st</sup> and ending December 31<sup>st</sup>.

Continuous Emission Monitoring System or CEMS means the equipment required by 40 CFR Part 75 used to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes (using an automated data acquisition and handling system (DAHS)), a permanent record of SO<sub>2</sub>, NO<sub>x</sub> or CO<sub>2</sub> emissions or stack gas volumetric flow rate.

Historical Actual Emissions or Historical Actual Emission Rate means the average annual emissions or output-based emission rate averaged over 1997, 1998 and 1999. A different three-year period within the past five years may be used if requested by the owner of an affected facility, and if the Department determines that period is more representative of historical actual emissions.

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MWh means megawatt-hours of net electrical output.

Net Electrical Output of a Facility means the total actual net electrical output of the facility used by the New England Independent System Operator to determine settlement resources of energy market participants.

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\*.\*.\* Note: EPA only approved the SO<sub>2</sub> and NO<sub>x</sub> requirements of 310 CMR 7.29 into the Massachusetts State Implementation Plan (SIP).

Output-based Emission Rate means an emission rate for any pollutant, expressed in terms of actual emissions in pounds over a specified time period per megawatt-hour of net electrical output produced over the same time period.

Output-based Emission Standard means the emission standards for each applicable pollutant, expressed in terms of pounds of pollutant emitted per megawatt-hour of net electrical output produced, as set forth in 310 CMR 7.29(5).

Repowering means:

(a) Qualifying Repowering Technology as defined by 40 CFR Part 72 or,

(b) The replacement of the heat or power from a unit subject to 40 CFR Part 72 at an affected facility with either a new combustion unit, regardless of the fuel used, or the purchase of heat or power from the owner of a new combustion unit, regardless of the fuel used, provided the replacement unit:

1. (Regardless of owner) is on the same, or contiguous property as the replaced unit;
2. Has a maximum heat output rate or power output rate equal to or greater than the maximum heat output rate or power output rate of the replaced unit; and, the replaced unit is physically removed from the affected facility, or the heat or power available from the replaced unit is limited by limiting hours of operation, maximum heat input or some other method approved by the Department; and,
3. Incorporates technology capable of controlling multiple combustion pollutants simultaneously with improved fuel, boiler or generation efficiency and significantly greater waste reduction relative to the performance of technology in widespread commercial use as determined by the Department.

Rolling with respect to an average means the calculation of an average by dropping the earliest month or calendar quarter value and incorporating the latest month or calendar quarter value for the period over which an average is calculated.

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(3) Applicability. The provisions of 310 CMR 7.29 apply to any person who owns, leases, operates or controls an affected facility.

(4) General Provisions.

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\*.\*.\* Note: EPA only approved the SO<sub>2</sub> and NO<sub>x</sub> requirements of 310 CMR 7.29 into the Massachusetts State Implementation Plan (SIP).

(a) Each affected facility shall comply with the applicable emission standards established in 310 CMR 7.29(5).

(b) Any person subject to 310 CMR 7.29 shall comply with all other applicable regulations, including, but not limited to: 310 CMR 7.02: *U Plan Approval and Emission Limitations*; 310 CMR 7.19: *Reasonably Available Control Technology (RACT) for sources of Oxides of Nitrogen (NO<sub>x</sub>)*; 310 CMR 7.28: *NO<sub>x</sub> Allowance Trading Program*; 310 CMR 7.70 *CO<sub>2</sub> Budget Trading Program*; 310 CMR 7.00: *Appendix A: Emissions Offsets and Nonattainment Review*; and 310 CMR 7.00: *Appendix C: Operating Permit and Compliance Program*. If provisions or requirements from any other regulation or permit conflict with a provision of 310 CMR 7.29, the more stringent of the provisions will apply unless otherwise determined by the Department in the affected facility's operating permit. Regardless of the Department's determination in the operating permit, any person subject to 310 CMR 7.29 shall comply with all applicable federal requirements.

(c) In the case of imminent threat to the reliability of New England's electricity system, the Department may promulgate an emergency regulation, as per M.G.L. c. 30A, §§ 2 and 3, to mitigate the emergency situation.

(5) Emission Requirements.

(a) Emission Standards for Affected Facilities.

1. Nitrogen Oxides Emission Standards.

a. Effective on the applicable date in 310 CMR 7.29(6)(c), emissions of nitrogen oxides shall not exceed an emission rate of 1.5 lbs./MWh calculated over any consecutive 12 month period, recalculated monthly; and,

b. Effective on the applicable date in 310 CMR 7.29(6)(c), emissions of nitrogen oxides shall not exceed an emission rate of 3.0 lbs./MWh calculated over any individual calendar month.

2. Sulfur Dioxide Emission Standards.

a. Effective on the applicable date in 310 CMR 7.29(6)(c), emissions of sulfur dioxide shall not exceed an emission rate of 6.0 lbs./MWh calculated over any consecutive 12 month period, recalculated monthly.

b. Effective on the applicable date in 310 CMR 7.29(6)(c),

i. Emissions of sulfur dioxide shall not exceed an emission rate of 3.0 lbs./MWh calculated over any consecutive 12 month period, recalculated monthly; and,

ii. Emissions of sulfur dioxide shall not exceed an emission rate of 6.0 lbs./MWh calculated over any individual calendar month.

(5)(a)3. \*\*\*

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(5)(a)6. \*\*\*

(b) Compliance with the emission standards in 310 CMR 7.29(5)(a), may be demonstrated by any combination of the following:

1. Dividing the total emissions of each pollutant by the total net electrical output from all electric generating units subject to 40 CFR Part 72 located at the affected facility as of May 11, 2001 or repowered at the affected facility after May 11, 2001. \*\*\*

2. For the SO<sub>2</sub> emission standards in 310 CMR 7.29(5)(a)2., using SO<sub>2</sub> reductions at the affected facility below historical actual emissions which were made after May 11, 2001, and prior to the earliest applicable date set in 310 CMR 7.29(6). The total amount of tons produced through early reductions each year is calculated by multiplying the facility's net electrical output for that year times (the historical actual emission rate minus that year's actual emission rate in lbs./MWh) divided by 2000. The amount of early reductions, with supporting information, shall be provided to the Department prior to use for compliance with 310 CMR 7.29(5)(a)2.a.. Each ton of reduction may be used, once, to offset one ton of excess emissions from the facility. Excess emissions are any emissions above a level equal to the net electrical output of the facility times the applicable emission standard in 310 CMR 7.29(5)(a)2.

3. For the emission standards in 310 CMR 7.29(5)(a)2.b., using SO<sub>2</sub> allowances created pursuant to 40 CFR Part 72 (the Federal Acid Rain Program). Three allowances shall be used to offset each ton of excess emissions above the emission standard. Such SO<sub>2</sub> allowances shall be in addition to those allowances used by the facility to comply with the requirements of 40 CFR part 72, and shall be transferred to the Department and retired for the benefit of the environment.

(6) Emission Control Plans, Compliance Paths and Compliance Dates.

(a) Emission Control Plan Deadline and General Provisions.

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\*\*\*. Note: EPA only approved the SO<sub>2</sub> and NO<sub>x</sub> requirements of 310 CMR 7.29 into the Massachusetts State Implementation Plan (SIP).

1. Any person who owns, leases, operates or controls an affected facility shall submit an emission control plan for Department approval under 310 CMR 7.29 on or before January 1, 2002 regardless of the compliance path chosen.

2. Any person who owns, leases, operates or controls an affected facility who is required to submit an application for a plan approval under 310 CMR 7.02 shall submit an application for plan approval pursuant to 310 CMR 7.02 on or before January 1, 2003.

3. \*.\*.\*

4. \*.\*.\*

(b) Emission Control Plan Contents. The emission control plan submitted pursuant to 310 CMR 7.29(6) shall include, but is not limited to, the following:

1. The name of the company and the affected facility.

2. A list of units at the affected facility that will be used to demonstrate compliance with 310 CMR 7.29(5), including which units will be included in calculating historical actual emissions.

3. The name of the company contact responsible for compliance with 310 CMR 7.29.

4. A statement that the affected facility has a monitoring plan in place which meets the requirements of 40 CFR Part 72. Any modifications to an affected facility's monitoring methodology approved pursuant to the requirements of 40 CFR 72 are hereby incorporated into the approved emission control plan under 310 CMR 7.29.

5. Signature of the company contact responsible for compliance with 310 CMR 7.29.

6. Identification of the affected facility, including plant name and the ORIS or facility code assigned to the facility by the U.S. Energy Information Administration, if applicable.

7. A description of how the affected facility will comply with the emission standards contained in 310 CMR 7.29(5), by the applicable compliance dates contained in 310 CMR 7.29(6)(c), including, but not limited to, the control equipment the affected facility intends to use.

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\*.\*.\* Note: EPA only approved the SO<sub>2</sub> and NO<sub>x</sub> requirements of 310 CMR 7.29 into the Massachusetts State Implementation Plan (SIP).

8. A proposed schedule with interim milestones for each activity leading to compliance with the requirements in 310 CMR 7.29(5). Such information shall include, but not be limited to, sufficient information to allow DEP to consult with the Division of Energy Resources and the Department of Telecommunications and Energy, to address any concerns with potential impacts to the reliability of the New England power system.

9. A description of how emission reduction measures implemented to achieve reductions in one pollutant will optimize reductions in other pollutants.

10. \*.\*.\*.

11. Any other information requested by the Department.

(c) Compliance Paths and Compliance Dates.

1. Any person who owns, leases, operates or controls an affected facility who does not choose to comply with the emissions standards in 310 CMR 7.29(5) by repowering a unit subject to 40 CFR Part 72 at the affected facility, or is not required to receive a plan approval pursuant to 310 CMR 7.02 for construction, substantial reconstruction or alteration of a unit at the affected facility subject to 40 CFR Part 72 for the purpose of compliance with 310 CMR 7.29, shall begin to comply with the emission standards in 310 CMR 7.29(5) by the following dates:

a. For the emission standards in 310 CMR 7.29(5)(a)1.a. and (5)(a)2.a., October 1, 2004; and,

b. For the emission standards in 310 CMR 7.29(5)(a)1.b., and (5)(a)2.b., October 1, 2006.

2. Any person who owns, leases, operates or controls an affected facility who chooses to comply with the emissions standards in 310 CMR 7.29(5) by repowering at least one unit at the affected facility subject to 40 CFR Part 72, or is required to receive a plan approval pursuant to 310 CMR 7.02 for construction, substantial reconstruction or alteration of a unit at the affected facility subject to 40 CFR Part 72 for the purpose of compliance with 310 CMR 7.29, and submits, on or before January 1, 2003, an administratively complete application pursuant to 310 CMR 7.02, shall begin to comply with the emission standards in 310 CMR 7.29(5) by the following dates:

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\*.\*.\*. Note: EPA only approved the SO<sub>2</sub> and NO<sub>x</sub> requirements of 310 CMR 7.29 into the Massachusetts State Implementation Plan (SIP).

a. For the emissions standards contained in 310 CMR 7.29(5)(a)1.a. and (5)(a)2.a., October 1, 2006, and

b. For the emissions standards contained in 310 CMR 7.29(5)(a)1.b. and (5)(a)2.b., October 1, 2008.

3. If an affected facility has units with different applicable compliance dates for a particular standard, the later compliance date applies to all units at the affected facility.

(d) Interaction with 310 CMR 7.02. A plan approval under 310 CMR 7.02(1) may be required for construction, substantial reconstruction or alteration of a unit at an affected facility to comply with 310 CMR 7.29. If such construction, substantial reconstruction or alteration to the facility triggers any applicable section under 310 CMR 7.02(4)(a) and 310 CMR 7.02(5)(a), a plan approval under 310 CMR 7.02 is required. If a plan approval is required under 310 CMR 7.02, then upon the Department's issuance of the plan approval, the Department will modify the affected facility's emission control plan pursuant to 310 CMR 7.29(6)(g).

(e) Public Comment. If the Department proposes to approve an emission control plan or approve a plan with conditions, the Department shall issue a draft emission control plan approval. Upon issuance, the Department will publish a notice of public hearing and comment on the draft emission control plan approval, in accordance with M.G.L. c. 30A, at least 30 days before the public hearing.

(f) Approval of the Emission Control Plan.

1. After the close of the public comment period, and consideration of any public comments, the Department shall issue a disapproval of the emission control plan, a final approval of the emission control plan, or a final approval of the emission control plan with conditions, based on whether the emission control plan as submitted meets the requirements of 310 CMR 7.29.

2. Upon final approval of an emission control plan, any person who owns, leases, operates or controls an affected facility shall implement and comply with the approved emission control plan.

(g) Modification to an Affected Facility's Operating Permit. For any person who owns, leases, operates or controls an affected facility, the facility's operating permit will be modified upon approval of the emission control plan in accordance with the procedures in 310 CMR 7.00: *Appendix C(8)*. No additional application or fee is necessary to modify the operating permit at the same time the emission control plan is approved.

(h) Modifications to an Affected Facility's Emission Control Plan.

1. Any person subject to 310 CMR 7.29 may propose amendments to the approved emission control plan. If the Department proposes to approve such amendments, or approve such amendments with conditions, then the Department will publish a notice of public comment on the draft approval, in accordance with M.G.L. c. 30A. The Department will allow a 30 day public comment period following publication of the notice, and may hold a public hearing. Modifications to an affected facility's monitoring system approved pursuant to the requirements of 40 CFR Part 72 are not subject to such public comment prior to approval.

2. \*.\*.\*.

(7) Reporting, Compliance Certification, and Recordkeeping.

(a) By January 30 of the year following the earliest applicable compliance date for the affected facility under 310 CMR 7.29(6)(c), and January 30 of each calendar year thereafter, the company representative responsible for compliance at each affected facility shall submit a report to the Department demonstrating compliance with the emission standards contained in 310 CMR 7.29(5)(a) and in an approved emission control plan. The report shall demonstrate compliance with any applicable monthly emission rate for each month of the previous calendar year, and with any applicable 12-month emission rate for each of the 12 previous consecutive 12-month periods.

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(b) The compliance report shall contain the following:

1. Actual emissions for each pollutant, expressed in tons for SO<sub>2</sub>, \*.\*.\*. , and NO<sub>x</sub>, for each of the preceding 12 months \*.\*.\*., for each of the preceding four calendar quarters beginning October 1, 2006 and preceding 12 months beginning January 1, 2008. Actual emissions shall be provided for individual units and as a facility total for all units included in the calculation demonstrating compliance. Actual emissions provided under 310 CMR 7.29 shall be reported in accordance with:

a. 40 CFR Part 75 for SO<sub>2</sub>, \*.\*.\*., and NO<sub>x</sub>, \*.\*.\*.

b. \*.\*.\*.

c. \*.\*.\*.

d. \*.\*.\*.

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\*.\*.\*. Note: EPA only approved the SO<sub>2</sub> and NO<sub>x</sub> requirements of 310 CMR 7.29 into the Massachusetts State Implementation Plan (SIP).

2. Actual net electrical output for each of the preceding 12 months, expressed in megawatthours. Actual net electrical output shall be provided for individual units and as a facility total for all units included in the calculation demonstrating compliance.
3. The resulting output-based emission rates for each of the preceding 12 months, and each of the 12 consecutive rolling month time periods, expressed in pounds per megawatt-hour for SO<sub>2</sub>, \*.\*.\*, and NO<sub>x</sub> \*.\*.\*. Output-based emission rates shall be provided for individual units and as a facility total for all units included in the calculation demonstrating compliance.
4. A compliance certification report, which shall contain the following elements:
  - a. A statement certifying that the monitoring data reflects operations at the affected facility.
  - b. A statement that all SO<sub>2</sub>, \*.\*.\*, and NO<sub>x</sub> emissions, \*.\*.\*, from the affected facility were accounted for, either through the applicable monitoring or through application of the appropriate missing data procedures and reported in the quarterly reports. If provisionally certified data were reported, the company representative responsible for compliance with 310 CMR 7.29 shall indicate whether the status of all provisionally certified data was resolved and all necessary quarterly reports were submitted.
  - c. A statement certifying that the MWhs of net electrical output used in compliance calculations reflect the total actual electrical output of the facility used by the New England Independent System Operator to determine settlement resources of energy market participants.
  - d. A statement notifying the Department of any changes in the method of operation at the affected facility or the method of monitoring the units at the affected facility during the previous year. If a change is reported, then specify the nature of the change, the reason for the change, when the change occurred, and how the facility's compliance status was determined subsequent to the change, including what method was used to determine emissions when a change mandated the need for monitor re-certification.

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\*.\*.\* Note: EPA only approved the SO<sub>2</sub> and NO<sub>x</sub> requirements of 310 CMR 7.29 into the Massachusetts State Implementation Plan (SIP).

e. A certification statement stating (verbatim): "I am authorized to make this submission on behalf of the owners, lessees, operators and controllers of the affected facilities for which the submission is made. I certify that I have personally examined the foregoing and am familiar with the information contained in this document and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possible fines or imprisonment."

(c) The Department may verify compliance by whatever means necessary, including but not limited to:

1. Inspection of a unit's operating records;
2. Requiring the person who owns, leases, operates or controls an affected facility to submit information on actual electrical output of company generating units provided to that person by the New England Independent System Operator;
3. Testing emission monitoring devices; and,
4. Requiring the person who owns, leases, operates or controls an affected facility to conduct emissions testing under the supervision of the Department.

(d) Any person who owns, leases, operates or controls an affected facility shall keep all measurements, data, reports and other information required by 310 CMR 7.29 for five years, or any other period consistent with the affected facility's operating permit.

(e) \*.\*.\*.

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(i).\*.\*.\*.

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\*.\*.\*. Note: EPA only approved the SO<sub>2</sub> and NO<sub>x</sub> requirements of 310 CMR 7.29 into the Massachusetts State Implementation Plan (SIP).