

Chapter 27 Emission Limitations for Power Plants

Authority: Environmental Article, §§1-101, 1-404, 2-101—2-103, 2-301—2-303, 10-102, and 10-103, Annotated Code of Maryland; Ch.23, Acts of 2006

.01 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) "Affected facility" means any one of the following electric generating stations:

- (a) Brandon Shores;
- (b) C. P. Crane;
- (c) Chalk Point;
- (d) Dickerson;
- (e) H. A. Wagner;
- (f) Morgantown; and
- (g) R. P. Smith.

(2) "Ozone season" means the period beginning May 1 of any given year and ending September 30 of the same year.

(3) "System" means two or more electric generating units subject to this chapter that are owned, operated, or controlled by the same person.

(4) "12-month rolling average emission rate" means an average emission rate determined at the conclusion of each month by calculating:

(a) For each hour that the unit is operating, the arithmetic average of all hourly emission rates for each operating day of a given calendar month to obtain a monthly average; and

(b) The arithmetic monthly average, as determined in §B(4)(a) of this regulation, of the previous 12 calendar months.

.02 Applicability and Exemptions.

A. This chapter applies to the following fossil-fuel fired electric generating units:

- (1) Brandon Shores Units 1 and 2;
- (2) C.P. Crane Units 1 and 2;
- (3) Chalk Point Units 1 and 2;
- (4) Dickerson Units 1, 2, and 3;

- (5) H.A. Wagner Units 2 and 3;
- (6) Morgantown Units 1 and 2; and
- (7) R. Paul Smith Units 3 and 4.

B. Except as provided in Regulation .03B(7) of this chapter, compliance with this chapter may not be achieved by applying sulfur dioxide (SO₂), oxides of nitrogen (NO_x), or mercury allowances acquired under any state or federal emissions trading program.

.03 General Requirements.

A. An electric generating unit subject to this chapter shall comply with the emission limitations for NO_x, SO₂, and mercury as provided in this regulation.

B. NO_x Emission Limitations.

(1) Except as provided in §E of this regulation, annual NO_x emissions from each affected electric generating unit may not exceed the number of tons in §B(2) of this regulation.

(2) Annual Tonnage Limitations.

| Affected Unit | Annual NO _x Tonnage Limitations Beginning | |
|-----------------------|--|-----------------|
| | January 1, 2009 | January 1, 2012 |
| Brandon Shores Unit 1 | 2,927 tons | 2,414 tons |
| Brandon Shores Unit 2 | 3,055 tons | 2,519 tons |
| C.P. Crane Unit 1 | 832 tons | 686 tons |
| C.P. Crane Unit 2 | 894 tons | 737 tons |
| Chalk Point Unit 1 | 1,415 tons | 1,166 tons |
| Chalk Point Unit 2 | 1,484 tons | 1,223 tons |
| Dickerson Unit 1 | 672 tons | 554 tons |
| Dickerson Unit 2 | 736 tons | 607 tons |
| Dickerson Unit 3 | 698 tons | 575 tons |
| H.A. Wagner Unit 2 | 673 tons | 555 tons |
| H.A. Wagner Unit 3 | 1,352 tons | 1,115 tons |
| Morgantown Unit 1 | 2,540 tons | 2,094 tons |
| Morgantown Unit 2 | 2,522 tons | 2,079 tons |
| R. Paul Smith Unit 3 | 67 tons | 55 tons |
| R. Paul Smith Unit 4 | 349 tons | 288 tons |
| Total | 20,216 tons | 16,667 tons |

(3) Except as provided in §E of this regulation, ozone season NO_x emissions from each affected electric generating unit may not exceed the number of tons in §B(4) of this regulation.

(4) Ozone Season Tonnage Limitations.

| Affected Unit | Ozone Season NO _x Tonnage Limitations Beginning May 1, 2009 |
|-----------------------|---|
| Brandon Shores Unit 1 | 1,363 tons |
| Brandon Shores Unit 2 | 1,449 tons |
| C.P. Crane Unit 1 | 345 tons |
| C.P. Crane Unit 2 | 385 tons |
| Chalk Point Unit 1 | 611 tons |
| Chalk Point Unit 2 | 657 tons |
| Dickerson Unit 1 | 311 tons |
| Dickerson Unit 2 | 333 tons |
| Dickerson Unit 3 | 314 tons |
| H.A. Wagner Unit 2 | 278 tons |
| H.A. Wagner Unit 3 | 583 tons |
| Morgantown Unit 1 | 1,053 tons |
| Morgantown Unit 2 | 1,048 tons |
| R. Paul Smith Unit 3 | 27 tons |
| R. Paul Smith Unit 4 | 143 tons |
| Total | 8,900 tons |

(5) Except as provided in §§B(7) and E of this regulation, if after reviewing 2009 ozone season measured ozone levels at air monitoring stations located in Maryland, the Department determines that ozone levels in Maryland exceed the levels required to meet the National Ambient Air Quality Standard for ozone, commencing on May 1, 2012, ozone season NO_x emissions from each affected electric generating unit may not exceed the number of tons in §B(6) of this regulation.

(6) Ozone Season Tonnage Limitations.

| Affected Unit | Ozone Season NO _x Tonnage Limitations Beginning May 1, 2012 |
|-----------------------|---|
| Brandon Shores Unit 1 | 1,124 tons |
| Brandon Shores Unit 2 | 1,195 tons |
| C.P. Crane Unit 1 | 284 tons |
| C.P. Crane Unit 2 | 317 tons |

| | |
|----------------------|------------|
| Chalk Point Unit 1 | 503 tons |
| Chalk Point Unit 2 | 542 tons |
| Dickerson Unit 1 | 257 tons |
| Dickerson Unit 2 | 274 tons |
| Dickerson Unit 3 | 259 tons |
| H.A. Wagner Unit 2 | 229 tons |
| H.A. Wagner Unit 3 | 481 tons |
| Morgantown Unit 1 | 868 tons |
| Morgantown Unit 2 | 864 tons |
| R. Paul Smith Unit 3 | 22 tons |
| R. Paul Smith Unit 4 | 118 tons |
| Total | 7,337 tons |

(7) Electric System Reliability During Ozone Seasons.

(a) An exceedance of the NO_x limitations in §B(4) or (6) of this regulation which occurs because PJM Interconnection, LLC or a successor independent system operator, acts to invoke "Maximum Emergency Generation", "Load Reduction", "Voltage Reduction", "Curtailment of Non-essential Building Load", or "Manual Load Dump" procedures in accordance with the current PJM Manual, or a PJM alert preceding such action as to a generating unit that has temporarily shut down in order to avoid potential interruption in electric service and maintain electric system reliability is not a violation of this chapter provided that:

(i) Within 36 hours following the action, the owner or operator of the affected electric generating unit or units notifies the Manager of the Air Quality Compliance Program of the action taken by PJM Interconnection and provides the Department with documentation of the action which is satisfactory to the Department;

(ii) Within 48 hours after completion of the action, the owner or operator of the affected unit or units provides the Department with the estimated NO_x emissions in excess of the emission limitation; and

(iii) Not later than December 31 of the year in which the emission limitation is exceeded, the owner or operator of the affected generating unit or units transfers to the Maryland Environmental Surrender Account, ozone season NO_x allowances equivalent in number to the tons of NO_x emitted in excess of the emission limitation in §B(4) or (6), as applicable.

(b) The owner or operator of an electric generating unit or system, as applicable, shall send written notice to the Manager of the Air Quality Compliance Program not later than 5 business days following the day when the cumulative ozone season NO_x emissions of an electric generating unit or system, as applicable, are:

(i) Equal to approximately 80 percent of the applicable ozone season emission limitation; and

(ii) Equal to the applicable ozone season emission limitation.

C. SO₂ Emission Limitations.

(1) Except as provided in §E of this regulation, annual SO₂ emissions from each affected electric generating unit may not exceed the number of tons in §C(2) of this regulation.

(2) Annual Tonnage Limitations.

| Affected Unit | Annual SO ₂ Tonnage Limitations Beginning | |
|-----------------------|--|-----------------|
| | January 1, 2010 | January 1, 2013 |
| Brandon Shores Unit 1 | 7,041 tons | 5,392 tons |
| Brandon Shores Unit 2 | 7,347 tons | 5,627 tons |
| C.P. Crane Unit 1 | 2,000 tons | 1,532 tons |
| C.P. Crane Unit 2 | 2,149 tons | 1,646 tons |
| Chalk Point Unit 1 | 3,403 tons | 2,606 tons |
| Chalk Point Unit 2 | 3,568 tons | 2,733 tons |
| Dickerson Unit 1 | 1,616 tons | 1,238 tons |
| Dickerson Unit 2 | 1,770 tons | 1,355 tons |
| Dickerson Unit 3 | 1,678 tons | 1,285 tons |
| H.A. Wagner Unit 2 | 1,618 tons | 1,239 tons |
| H.A. Wagner Unit 3 | 3,252 tons | 2,490 tons |
| Morgantown Unit 1 | 6,108 tons | 4,678 tons |
| Morgantown Unit 2 | 6,066 tons | 4,646 tons |
| R. Paul Smith Unit 3 | 161 tons | 124 tons |
| R. Paul Smith Unit 4 | 841 tons | 644 tons |
| Total | 48,618 tons | 37,235 tons |

D. Mercury Emission Limitations.

(1) For the 12-month period from January 1, 2010 through December 31, 2010 and ending with the 12-month period beginning December 1, 2012 through November 30, 2013, each affected facility shall meet a 12-month rolling average removal efficiency for mercury of at least 80 percent.

(2) For the 12 months beginning January 1, 2013 and thereafter, each affected facility shall meet a 12-month rolling average removal efficiency for mercury of at least 90 percent.

(3) The mercury removal efficiency required in §D(1) and (2) of this regulation shall be determined in accordance with Regulation .04 of this chapter.

E. System-Wide Compliance Determinations.

(1) Compliance with the emission limitations in §§B and C of this regulation may be achieved by demonstrating that the total number of tons emitted from all electric generating units in a system does not exceed the sum of the tonnage limitations for all electric generating units in that system.

(2) A system-wide compliance determination shall be based only upon emissions from units in Maryland that are subject to the emission limitations in §§B and C of this regulation.

(3) If a unit that is part of a system is transferred to a different person that does not own, operate, lease, or control an affected unit subject to this chapter, the transferred unit shall meet the limitations in §§B and C of this regulation applicable to that electric generating unit.

.04 Determining the Mercury Removal Efficiency for Affected Facilities.

A. The procedures of §§B—F of this regulation shall be used to demonstrate compliance with the 12-month rolling average removal efficiency required for mercury by Regulation .03D of this chapter. The owner or operator of an affected facility shall notify the Department of the compliance demonstration method it has elected from §§D—F of this regulation on or before January 1, 2010, for the compliance period that commences on that date and on or before January 1, 2013, for the compliance period that commences on that date. The owner or operator of an electric generating unit that elects to demonstrate compliance with the required mercury removal efficiency by meeting the mass emissions limitation in §F of this regulation shall utilize that same method for all other electric generating units in the system. Once elected for each affected facility or system, as applicable, the option may not be changed during the designated compliance period, but may be changed for the next compliance period.

B. Determining Mercury Content in Coal and Mercury Flue Gas Emission Rates for Each Affected Electric Generating Unit.

(1) The owner or operator of an electric generating unit subject to this regulation shall, at least once each quarter during a consecutive 18-month period beginning not later than July 1, 2007:

(a) Determine the mercury content of the coal utilized by each affected unit using a test method approved by the Department; and

(b) Conduct a combustion gas test to determine the mercury emission rate in the flue gas upstream of any pollution control measure, including fuel mercury beneficiation.

(2) Combustion gas testing and collection of coal samples to determine the mercury content in coal shall be performed on the same day or days.

(3) The mercury emission rate in the flue gas shall be reported as ounces of mercury per trillion Btu heat input.

(4) Combustion gas testing shall be performed using a test protocol approved by the Department. The test protocol shall be submitted to the Department at least 45 days prior to commencement of testing.

(5) The owner or operator of an affected electric generating unit shall submit to the Department:

(a) The results of tests to determine the mercury content of coal and mercury emission rate in the flue gas upon receipt; and

(b) A demonstration that the combustion gas tests were performed utilizing a coal with a mercury content within the same or lower range as the mercury content of the coal utilized by the electric generating unit during the previous 10 years.

C. Determining the Uncontrolled Mercury Flue Gas Baseline for an Affected Facility.

(1) The uncontrolled mercury emission rate in the flue gas of each electric generating unit subject to this chapter shall be determined as the arithmetic average of the quarterly combustion gas tests required by §B of this regulation expressed as ounces per trillion Btu heat input.

(2) The uncontrolled mercury baseline emission rate for an affected facility shall be determined as the heat input weighted average of the emission rates for the coal-fired electric generating units at the affected facility determined in accordance with §C(1) of this regulation.

(3) The uncontrolled mercury baseline emission rate in §C(1) and (2) of this regulation shall be measured upstream of all pollution control measures, including fuel mercury beneficiation.

D. Demonstrating Compliance By Measuring Mercury Removal Efficiency. Compliance with the required mercury removal efficiency is demonstrated at an affected facility when the heat input weighted average of the mercury emission rate of all coal-fired electric generating units at the affected facility, calculated as a 12-month rolling average, is:

(1) For the 12-month period commencing on January 1, 2010, not more than 20 percent of the uncontrolled mercury emission rate established pursuant to §C of this regulation; and

(2) For the 12-month period commencing January 1, 2013 and thereafter, not more than 10 percent of the uncontrolled mercury emission rate established pursuant to §C of this regulation.

E. Demonstrating Compliance by Meeting a Mercury Emission Rate.

(1) Compliance with the required mercury removal efficiency is achieved for an affected facility when the heat input weighted average of the mercury emission rates of all coal-fired electric generating units at the affected facility, measured as a 12-month rolling average, does not exceed the applicable emission rate in §E(2) of this regulation.

(2) Emission Rates.

| Affected Facility | Emission Limits Ounces per Trillion Btu Heat Input Beginning | |
|-------------------|--|-----------------|
| | January 1, 2010 | January 1, 2013 |
| Brandon Shores | 21 | 10 |
| C.P. Crane | 37 | 18 |
| Chalk Point | 40 | 20 |
| Dickerson | 38 | 19 |
| H.A. Wagner | 25 | 12 |
| Morgantown | 27 | 14 |
| R. Paul Smith | 35 | 18 |

F. Demonstrating Compliance by Meeting a Mercury Mass Emission Cap.

(1) Compliance with the required mercury removal efficiency is demonstrated at an affected facility when the mass emissions, measured in pounds as a 12-month rolling period, do not exceed the applicable emission limits in §F(2) of this regulation.

(2) Mercury Emission Limits.

| Affected Facility | Emission Limits Pounds per Year Beginning | |
|-------------------|---|-----------------|
| | January 1, 2010 | January 1, 2013 |
| Brandon Shores | 94 | 46 |
| C.P. Crane | 26 | 13 |
| Chalk Point | 108 | 54 |
| Dickerson | 74 | 37 |
| H.A. Wagner | 68 | 33 |
| Morgantown | 127 | 66 |
| R. Paul Smith | 14 | 7 |

(3) In the event that an electric generating unit at an affected facility subject to this chapter permanently ceases operation, the mass emission limitation in §F(2) of this regulation which is applicable to that affected facility shall be reduced proportionally based on the relative capacity, in megawatts, of all the electric generating units at the affected facility which are subject to this regulation.

(4) In the event that an entire affected facility within a system permanently ceases operation, the total mass emission limitation in §F(2) of this regulation shall be reduced by the mass emission limitation applicable to the affected facility.

(5) Except during periods of startup, shutdown, malfunction or maintenance, the owner or operator of an electric generating unit shall ensure that mercury control measures are continuously employed on each unit and properly adjusted for optimal control taking into consideration the operating conditions.

.05 Monitoring and Reporting Requirements.

A. Compliance with the emission limitations in this chapter shall be demonstrated with a continuous emission monitoring system that is installed, operated, and certified in accordance with 40 CFR Part 75.

B. Beginning with calendar year 2007 and each year thereafter, the owner or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year.

C. Each report shall include:

(1) Emissions performance results related to compliance with the emission requirements under this chapter;

(2) Emissions of NO_x and SO₂, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit;

- (3) A current compliance plan; and
- (4) Any other information requested by the Department.

.06 Judicial Review of Penalty Waivers.

A. Applicability. The provisions of this regulation govern judicial review of determinations by the Department to reduce or waive penalties for failure to achieve timely compliance with this chapter in accordance with Environment Article, §2-1002(i)(3), Annotated Code of Maryland.

B. Public Notice Requirements.

(1) The Department shall provide public notice of a tentative determination to grant a request for reduction or waiver of penalties made in accordance with Environment Article, §2-1002(i)(2), Annotated Code of Maryland.

(2) The public notice shall:

- (a) Be posted on the Department's website;
- (b) Published in a newspaper of general circulation in the area in which the affected unit is located at least once a week for 2 consecutive weeks; and
- (c) Be sent by first class mail, postage prepaid, or electronic mail to all persons who have requested to be notified about any request for reduction or waiver of penalties submitted to the Department.

(3) The public notice required by this regulation shall include the following information:

- (a) The Department's address and the name and telephone number of a contact person for more information;
- (b) The name and address of the person requesting a waiver or reduction of penalties;
- (c) Identification and address of the affected unit for which the reduction or waiver is requested;
- (d) The name, address, and phone number of a person representing the applicant from whom an interested person may obtain additional information;
- (e) The location where the following information is available for public inspection:
 - (i) The complete application for the reduction or waiver of penalties, except for information qualifying as confidential;
 - (ii) The tentative determination; and
 - (iii) Other supporting information considered relevant by the Department;

(f) Notice of an opportunity for public comment on the Department's tentative determination for a period of at least 30 calendar days; and

(g) Notice of the public participation procedures and right to judicial review provided by this regulation.

C. Public Comment Period.

(1) The Department shall provide at least 30 days for public comment on a tentative determination to grant a reduction or waiver of penalties during which time any person may submit written comments on the tentative determination.

(2) The Department shall consider all comments that raise issues of law or material fact that are germane to the tentative determination.

D. Final Determination.

(1) The Department shall prepare a final determination if:

(a) The Department has received timely and germane written comments that are adverse to the tentative determination; or

(b) The final determination is substantively different from the tentative determination.

(2) If the Department is not required to prepare a final determination under §D(1) of this regulation, the tentative determination becomes the final determination when the request for reduction or waiver of penalties is granted.

(3) Notice of the final determination shall be mailed to each person that submitted comments on the tentative determination.

E. Petition for Judicial Review.

(1) Final determinations to reduce or waive penalties are subject to judicial review by any person who:

(a) Meets standing requirements under federal law; and

(b) Participated in the public comment process through the timely submission of written comments.

(2) Judicial review shall be on the administrative record before the Department and limited to objections raised in written comments received during the public comment period, unless the petitioner demonstrates:

(a) That the objections were not reasonably ascertainable during the comment period; or

(b) That grounds for the objections arose after the comment period.

F. Record for Judicial Review. The record for judicial review of a final determination to grant a request to reduce or waive penalties shall consist of all written comments submitted to the Department during the public comment period, all information considered by the Department in making its final determination, and, in the case of a petition based upon new grounds under §E(2) of this regulation, any information that is relevant and material to the new grounds.

SEE COMAR 26.11.27 at http://www.dsd.state.md.us/comar/subtitle_chapters/26_Chapters.htm#Subtitle11
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Administrative History

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