

**Commonwealth of Pennsylvania  
Department of Environmental Protection**



**pennsylvania**

DEPARTMENT OF ENVIRONMENTAL  
PROTECTION

**CHANGES TO THE REGIONAL HAZE  
STATE IMPLEMENTATION PLAN REVISION:  
BART LIMITS FOR THE CHESWICK POWER  
PLANT, ALLEGHENY COUNTY**

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## INTRODUCTION

This State Implementation Plan (SIP) revision modifies and corrects Pennsylvania's Regional Haze SIP revision, which was submitted to the U.S. Environmental Protection Agency (EPA) on December 20, 2010, and which received a limited approval by EPA (77 FR 41279; July 13, 2012, and 77 FR 48061; August 13, 2012).<sup>1</sup> In this SIP revision, the Pennsylvania Department of Environmental Protection (DEP) refers to the Regional Haze SIP revision as the December 20, 2010, Regional Haze SIP. This SIP revision is submitted in accordance with the visibility and regional haze provisions of Sections 169A and 169B of the federal Clean Air Act, 42 U.S.C. §§7491, 7492, and the federal regional haze rule codified at 40 C.F.R. § 51.308.

## EXPLANATION OF CHANGES IN THIS SIP REVISION

This SIP revision changes information relating to Boiler No. 1 of the Orion Power Cheswick Generating Station (the Cheswick Plant) in Allegheny County, in the last row of Table 8.6 BART Control Levels, found on Page 61 of the December 20, 2010, Regional Haze SIP. This SIP revision also replaces the Best Available Retrofit Technology (BART) review memorandum for the Cheswick Plant attached to the December 20, 2010, Regional Haze SIP, with a new review memo dated November 7, 2012. At the time the November 7, 2012 review memo was completed, the owner of the Cheswick Plant had changed from Orion Power to GenOn Power Midwest LP. In 2013, the Cheswick Plant changed owner from GenOn Power Midwest LP to NRG Power Midwest LP. Since the November 7, 2012 review memo was completed for GenOn Power Midwest LP, and the current permits are issued to GenOn Power Midwest LP, this SIP revision refers to the facility owner as GenOn Power Midwest LP to avoid confusion. None of these corrections will interfere with Pennsylvania's reasonable progress to achieving natural visibility conditions as required by the Clean Air Act.

**Owner's name in Table 8.6.** This SIP revision updates the owner's name of the facility to GenOn Power Midwest LP in Table 8.6, as set forth below.

**Permit number and issuance date in Table 8.6.** The Allegheny County Health Department (ACHD) issued an Installation Permit (IP No. 0054-I004a; April 20, 2010) and a Title V Operating Permit (TVOP No. 0054; December 30, 2010) to the Cheswick Plant after ACHD completed its May 4, 2009, BART determination review memo for the Cheswick Plant. The May 4, 2009, memo is contained in Appendix J of the December 20, 2010, Regional Haze SIP. This SIP revision updates the permit numbers and dates of issuance for Boiler No. 1 of the Cheswick Plant in Table 8.6, as set forth below.

**PM<sub>10</sub> emission limit in Table 8.6.** The particulate matter less than 10 micrometers (PM<sub>10</sub>) emission limit of 361 tons per year (tpy) for Boiler No. 1 listed in Table 8.6 of the December 20, 2010, Regional Haze SIP was found to be incorrect, after EPA proposed approval of the SIP revision. GenOn commented on the error during the public comment period on EPA's

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<sup>1</sup> The December 20, 2010, Regional Haze SIP also received a limited disapproval (77 FR 33642; June 7, 2012).

proposed approval of the SIP revision, to which EPA wrote in its final action on the plan, at 77 FR 41283 (July 13, 2012):

One commenter stated that the PADEP BART determination for GenOn Energy's Cheswick Generating Station included emission limits including PM which were inconsistent with the plant's current permits... In setting the BART limits, PADEP appears to have set emission limits for the facility that are far more stringent than intended. If Pennsylvania submits a revised BART determination for the Cheswick Generating Station, EPA commits to act expeditiously on the revised SIP submittal.

Accordingly, this SIP revision replaces the incorrect PM<sub>10</sub> emission limit, 361 tpy, with the correct emission limit of 180 pounds per hour (lb/hr) for Boiler No. 1 in Table 8.6, which includes condensable PM, but excludes sulfuric acid mist, as set forth below. This emission limit was established in the Installation Permit: 0054-I004a, issued by the ACHD on April 20, 2010, for the Cheswick Plant. The emission limit of 180 lb/hr equates to 788 tpy. This correction of the PM<sub>10</sub> emission limit will not interfere with any applicable Clean Air Act requirements.

The modeling of potential visibility impacts from Boiler No. 1 for purposes of the May 4, 2009, ACHD review memo was conducted prior to the installation of the flue gas desulfurization (FGD) unit and the construction of a new stack (which is 198.5 feet shorter than the previous stack which was included in the modeled analysis done by the facility and Northeast States for Coordinated Air Use Management (NESCAUM)). BART modeling information provided independently by the facility's owner/operator and NESCAUM produced comparable results. The Department believes that the reductions in sulfur oxides and PM<sub>10</sub> emissions due to the FGD installation, as well as the significantly shorter stack, will reduce the visibility impacts from Boiler No. 1 from what was originally modeled for the Cheswick Plant.

**SO<sub>2</sub> and NO<sub>x</sub> emission limits in Table 8.6.** In addition to correcting the PM<sub>10</sub> emission limit in the December 20, 2010, Regional Haze SIP, this SIP revision corrects the errant inclusion of the sulfur dioxide (SO<sub>2</sub>) emission limit of 67,452 tpy and the nitrogen oxides (NO<sub>x</sub>) emission limit of 10,840 tpy for Boiler No. 1 listed in Table 8.6 of the December 20, 2010, Regional Haze SIP. These limits, which were entered into the table in error, conflict with the ACHD's review memoranda as to what constitutes BART for the Cheswick Plant. The limits in Table 8.6 also conflict with the narrative description of BART in the December 20, 2010, Regional Haze SIP.

The May 4, 2009, and November 7, 2012, review memoranda issued by the ACHD stated that:

EPA has determined that BART requirements for EGUs (Electric Generating Units) covered by CAIR are satisfied by the CAIR requirements for NO<sub>x</sub> and SO<sub>2</sub> so an engineering analysis is not required for these pollutants.

The December 20, 2010, Regional Haze SIP explained that BART determinations were conducted for emissions of particulate matter only, because BART-eligible EGUs located in Pennsylvania are subject to the federal CAIR program for SO<sub>2</sub> and NO<sub>x</sub> (see Section "8.2 EGUs and CAIR").

Since the SO<sub>2</sub> and NO<sub>x</sub> limits for the Cheswick Plant were mistakenly entered into Table 8.6 of the December 20, 2010, Regional Haze SIP, this SIP revision deletes them from Table 8.6. The removal of the SO<sub>2</sub> and NO<sub>x</sub> emission limits will not interfere with visibility improvement or with any applicable requirement under the Clean Air Act.

**Revised Review Memorandum in Appendix J.** ACHD updated the BART analysis for Boiler No. 1 at the Cheswick Plant on November 7, 2012. This review memo indicates that the PM<sub>10</sub> emission limit determined in the May 4, 2009, review memo for the Cheswick Plant was incorrect. The updated analysis includes the current control devices in operation at the facility and the applicable emission limits and regulations. The November 7, 2012, review memo considers the five statutory BART factors and explains that the Cheswick Plant has the most stringent controls installed, that the flue gas stream is not allowed to bypass the FGD and electrostatic precipitator (ESP) systems, that the emission limits are in two federally-enforceable permits, and that the two separate modeling studies show that visibility impacts even without considering FGD are minimal (but now the FGD is operating). Therefore, per EPA Guidance found at 40 C.F.R. 51 Appendix Y – Guidelines for BART Determinations under the Regional Haze Rule, no further analysis is needed. ACHD’s November 7, 2012, review memo concluded additional controls were not warranted given the visibility impact from Cheswick and cost ineffectiveness of additional controls given the visibility impact of 0.0336 deciviews. The Department recommends the corrected PM<sub>10</sub> emission limit of 180 lb/hr since the November 7, 2012, review memo shows that there are no additional visibility impacts to federal Class 1 areas. ACHD’s November 7, 2012, review memo can be found in Appendix 1 of this SIP submittal. This review memo replaces ACHD’s May 4, 2009, review memo for the Cheswick Plant in Appendix J of the December 20, 2010, Regional Haze SIP.

## **CHANGES IN THE APPROVED REGIONAL HAZE SIP REVISION**

This SIP revision makes the following changes to information in the last row of Table 8.6 BART Control Levels, found on Page 61 of the December 20, 2010, Regional Haze SIP:

- (a) This SIP revision updates “Orion Power” to “GenOn Power Midwest LP” for the BART Source Name.
- (b) This SIP revision updates the permit information from “Operating Permit: 1065009-003-00100 (12/8/81)” to “Installation Permit: 0054-I004a (4/20/10)” and “Title V Permit: 0054 (12/30/10).”
- (c) This SIP revision corrects the PM<sub>10</sub> emission limit from “PM<sub>10</sub>: 361 tpy” to “PM<sub>10</sub>: 180 lb/hr (includes condensable PM; excludes sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>))<sup>2</sup>”.

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<sup>2</sup> Sulfuric acid mist, H<sub>2</sub>SO<sub>4</sub>, is not included in the PM<sub>10</sub> emission limit, as it is not necessary, since the flue gas desulfurization unit was used for compliance with CAIR for SO<sub>2</sub>, which will reduce emissions of sulfates and inorganic condensable PM emissions.

(d) This SIP revision removes “SO<sub>2</sub>: 67,452 tpy” and “NO<sub>x</sub>: 10,840 tpy” emission limits.

The last row of Table 8.6 will now appear as follows in the Pennsylvania Regional Haze SIP revision:

<b>BART Source Name &amp; Unit Id</b>	<b>Permit No. and Date of Issue</b>	<b>Pollutant and Emission Limit</b>	<b>Emissions Reporting and Monitoring</b>
GenOn Power Midwest LP Cheswick Plant Allegheny County Boiler No. 1	Title V Permit: 0054 (12/30/10) Installation Permit: 0054-I004a (4/20/10)	PM <sub>10</sub> : 180 lb/hr (includes condensable PM; excludes sulfuric acid mist (H <sub>2</sub> SO <sub>4</sub> ))	See above citations of ACHD Rules and Regulations.

### **COORDINATION WITH FEDERAL LAND MANAGERS**

Coordination between States and the Federal Land Managers (FLMs) is required by Section 169A(d) of the CAA, (42 U.S.C. § 7491(d)), and 40 CFR § 51.308(i). The Department is required under 40 CFR § 51.308(i)(2) to provide the FLMs the opportunity for consultation, in person and at least 60 days prior to holding any public hearing on an implementation plan revision for regional haze.

The Department sent a preliminary draft of this SIP revision to the FLMs on July 25, 2013. The Department provided the FLMs, namely the U.S. National Park Service, the U.S. Department of Agriculture – Forest Service and the U.S. Fish and Wildlife Service, an opportunity for consultation, in person at least 60 days prior to holding Pennsylvania’s public hearings<sup>3</sup> on the proposed SIP revision, in accordance with 40 C.F.R. § 51.308(i)(2).

The Department received written comments from the U.S. National Park Service and U.S.D.A. – Forest Service regarding the draft proposed SIP revision during the mandated consultation period, pursuant to 40 C.F.R. 51.308(i)(3). The U.S. Fish and Wildlife Service stated that they had reviewed the draft and did not have any comments or concerns. The FLMs’ comments and the Department’s responses are included in Appendix 2.

The Department will continue to coordinate and consult with the FLMs on the implementation of the visibility protection program, in accordance with 40 C.F.R. § 51.308(i)(4). This process will include coordination and consultation on the development and review of implementation plan revisions and 5-year progress reports and on the implementation of other programs having the potential to contribute to visibility impairment in mandatory Class I areas.

<sup>3</sup> The Department provided notice of public hearings, scheduled for January 21, 2014, in the *Pennsylvania Bulletin* on December 21, 2013 (43 Pa.B.7506). Since no person expressed an interest in attending the hearings, the Department cancelled the public hearings, as allowed by the notice.

## **CONSULTATION WITH OTHER STATES**

Section 51.308(d)(3)(i) of the Regional Haze Regulation requires the Department to consult with other states and tribes to develop coordinated emission strategies. This requirement applies where emissions from Pennsylvania are reasonably anticipated to contribute to visibility impairment in Class I areas outside Pennsylvania. There will not be an emission increase from Pennsylvania resulting from this SIP revision, and as such, consultation on this SIP revision is not required. Nevertheless, the Department consulted with the MANE-VU states and West Virginia.

On July 31, 2013, the Department notified the MANE-VU states and West Virginia of the proposed SIP revision. In addition, during MANE-VU Technical Support Committee Conference Calls, held on August 27 and September 24, 2013, the Department updated MANE-VU states on the status of the proposed SIP revision. The Department did not receive any comments from MANE-VU states or West Virginia regarding the proposed SIP revision.

## **PUBLIC PARTICIPATION**

Requirements for a public comment process are set forth in Section 110(a)(2) of the CAA and 40 CFR § 51.102. The Department provided public notice of the opportunity to comment on the proposed SIP revision in the *Pennsylvania Bulletin* on December 21, 2013 (43 Pa. B. 7506). The Department provided notice of public hearing on December 21, 2013. The Department scheduled three public hearings to occur on January 21, 2014, but no persons expressed interest in presenting testimony or attending. Therefore, the Department cancelled the hearings. Comments were received from one commentator during the public comment period. A brief summary of the comments and the Department's responses can be found in the Department's Comment and Response Document in Appendix 3.