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July 17, 2011

VIA EMAIL AND CERTIFIED MAIL

Administrator Lisa P. Jackson
U.S. Environmental Protection Agency
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**Re: Petition for objection to Fort Smallwood Complex Brandon Shores & H.A. Wagner
Generating Stations No. 24-003-00468**

Dear Administrator Jackson:

Enclosed is a petition requesting that the U.S. Environmental Protection Agency (EPA) object to the Title V Permit No. 24-003-00468 issued to Constellation Power Source Generation, Inc. for operation of a coal-fired power plant (Permit). This petition is timely submitted by the Environmental Integrity Project and Chesapeake Climate Action Network, Inc. (collectively, Petitioners) pursuant to section 505(b)(2) of the Clean Air Act, 42 U.S.C. § 7661d(b)(2), 40 C.F.R. 70.8(d). As required by these provisions, Petitioners are filing this Petition with the EPA Administrator, with copies to the Maryland Department of the Environment (MDE), Constellation Power Source Generation, Inc., and the EPA Region III Air Permit Section Chief.

Thank you for your prompt attention to this matter.

Sincerely,

Jennifer Peterson

Leah Kelly

Attorney

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**UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY**

BEFORE THE ADMINISTRATOR

IN THE MATTER OF)	
)	PETITION FOR OBJECTION
)	
Proposed Clean Air Act Title V)	Permit Number 24-003-00468
Operating Permit Issued to Constellation)	
Power Source Generation, Inc. Fort)	
Smallwood Complex Brandon Shores &)	
H.A. Wagner Generating Stations)	
_____)	

Pursuant to section 505(b)(2) of the Clean Air Act (CAA or Act), 42 U.S.C. § 7661d(b)(2), and 40 C.F.R. §70.8(d), the Environmental Integrity Project and the Chesapeake Climate Action Network (collectively, Petitioners) petition the Administrator of the U.S. Environmental Protection Agency to object to the proposed Title V Operating Permit Number 24-003-00468 issued by the Maryland Department of the Environment (MDE) to the Constellation Power Source Generation, Inc. (Constellation) Fort Smallwood Complex Brandon Shores & H.A. Wagner Generating Stations (Fort Smallwood Permit or Permit). As required by these cited provisions, Petitioners are filing this Petition with the EPA Administrator, and providing copies to the MDE, Constellation Power Source Generation, Inc., and the EPA Region III Air Permit Section Chief.

Petitioner Environmental Integrity Project (“EIP”) is a Washington, D.C. based non-profit organization founded to advocate for the effective enforcement of state and federal environmental laws, with a specific focus on the Clean Air Act and large stationary sources of air pollution like the Fort Smallwood power plants. As one method of achieving its mission, EIP participates in permitting procedures for major sources of air pollution in the State of Maryland.

EIP filed comments on the Fort Smallwood permit during the official notice and comment period on June 14, 2010. See Attachment A. EIP's ability to carry out its mission of improving the enforcement of environmental laws is adversely impacted if states like Maryland issue Title V permits to large sources of air pollution that fail to comply with the Clean Air Act and EPA fails to object.

Petitioner Chesapeake Climate Action Network (CCAN) is a Maryland based non-profit organization that seeks to educate and mobilize citizens of Maryland, Virginia, and Washington, DC in a way that fosters a rapid societal switch away from dirty fossil fuels towards clean energy and energy efficient products. CCAN's mission is to halt the dangerous trend of global warming and also enhance the health and welfare of its members. CCAN members residing in Maryland share a common concern about air pollution, including pollution created by the Fort Smallwood power plants. CCAN filed comments on the Fort Smallwood permit during the official notice and comment period on June 14, 2010. See Attachment A. CCAN and CCAN members will be adversely impacted if EPA fails to object to a Title V permit that does not comply with the Clean Air Act.

EPA must object to the Fort Smallwood Permit because it is not in compliance with the Clean Air Act. Specifically, the Permit does not include testing and monitoring requirements sufficient to assure compliance with emission limits..

BACKGROUND

The Constellation Fort Smallwood Complex consists of the Brandon Shores and H.A. Wagner Generating Stations and is located in Anne Arundel County, Maryland on the Patapsco River. Air & Radiation Mgmt. Admin., Md. Dep't of the Env't, Constellation Power Source Generation, Inc. Fort Smallwood Complex Brandon Shores and H.A. Wagner Generating

Stations, Draft Part 70 Operating Permit Fact Sheet Permit No. 24-003-00468. The Fort Smallwood power plants consist of several coal-fired and other fossil fuel boilers used for the generation of electricity. Id. The Fort Smallwood power plant is a major emitter of sulfur oxides, nitrogen oxides, hazardous air pollutants, and other dangerous pollutants. Id.

MDE issued an initial draft Title V Permit for the Fort Smallwood Complex on May 14, 2010. EIP and CCAN submitted timely comments on the initial draft Title V permit on June 14, 2010. Initially, MDE submitted a proposed Title V permit for the Fort Smallwood Complex to EPA on August 17, 2010, the EPA review period ended on September 30, 2010, and Petitioners filed a petition to the August 17, 2010 permit on November 23, 2010. U.S. Env'tl. Prot. Agency, Mid-Atlantic Air Protection, Title V Air Operating Permits Database: Deadlines for Public Petitions to the Administrator for Permit Objections, <http://www.epa.gov/reg3artd/permitting/petitions3.htm> (November 23, 2010). However, MDE withdrew the August 17, 2010 permit and submitted a revised Title V permit for the Fort Smallwood Complex to EPA on April 2, 2011 and the EPA review period ended on May 18, 2011 (May 18, 2011).

Petitioners raised all issues in this Petition in their comments to MDE. MDE sent Petitioners a response to the June 2010 comments on April 4, 2011. MDE issued a final Title V Permit for the Fort Smallwood Complex on May 1, 2011. Md. Dep't of the Env't., Issued Part 70 Permits, <http://www.mde.state.md.us/programs/Permits/AirManagementPermits/TitleVProgramInformation/Pages/title5issuedpermits.aspx> (last visited on July 17, 2011).

SPECIFIC OBJECTIONS

“If any [Title V] permit contains provisions that are determined by the Administrator as not in compliance with the applicable requirements of this chapter...the Administrator shall...object to its issuance.” 42 U.S.C. § 7661d(b)(1) (emphasis added). The EPA “does not have discretion whether to object to draft permits once noncompliance has been demonstrated.” See *N.Y. Pub. Interest Group v. Whitman*, 321 F.3d 316, 334 (2d Cir. 2003) (holding that EPA is required to object to Title V permits once petitioner has demonstrated that permits do not comply with the Clean Air Act).

I. The Permit does not include testing and monitoring requirements sufficient to assure compliance with emission limits.

The Clean Air Act requires that “each permit issued under [Title V] shall set forth ... monitoring, compliance certification, and reporting requirements sufficient to assure compliance with the permit terms and conditions” 42 U.S.C. §7661c(c). On August 19, 2008, the D.C. Circuit Court of Appeals struck down an EPA rule that would have prohibited MDE and other state and local authorities from adding monitoring provisions to Title V permits if needed to “assure compliance.” See *Sierra Club v. EPA*, 536 F.3d 673 (D.C. Cir. 2008). The opinion emphasized the statutory duty to include adequate monitoring in Title V permits:

“By its terms, this mandate means that a monitoring requirement insufficient ‘to assure compliance’ with emission limits has no place in a permit unless and until it is supplemented by more rigorous standards.” *Id.* at 677.

The D.C. Circuit opinion makes clear that Title V Permits must include monitoring requirements that assure compliance with emission limits. The Court specifically noted that annual testing is unlikely to assure compliance with a short term emission limit, and found that state permitting authorities have a statutory duty to include monitoring requirements that ensure

compliance with emission limits in Title V operating permits. See id. at 675. In other words, the frequency of monitoring must bear some relationship to the averaging time used to determine compliance. In fact, EPA objected to the Wheelabrator Incinerator Title V permit issued by MDE on June 1, 2009 for failure to include monitoring requirements sufficient to assure compliance with short term emission limits for PM, mercury, cadmium, lead, sulfur dioxide (SO₂), carbon monoxide (CO), and nitrogen oxides (NO_x), and other pollutants. Wheelabrator Order, 8–13. The draft Fort Smallwood Permit contains similar deficiencies in testing and monitoring requirements.

A. The Permit contains inadequate monitoring for the synthetic minor Total PM/PM-10 limits for Emission Units BS-1 and BS-2.

1. The monitoring method for the Total PM/PM-10 limits is not clearly identified and does not appear to account for emissions generated during startup, shutdown, and malfunction events (SSM).

The Permit does not include sufficient monitoring requirements to assure compliance with the synthetic minor limits for Total PM/PM-10. See Permit, at 28–36. MDE states that PM CEMS will be used to demonstrate continuous compliance with this emission limit. Response to Comments, at 2 (noting that “[t]he PM CEMS generates data to demonstrate compliance with all the PM (filterable) emissions limits which includes the . . . CPCN synthetic minor limits”). The Permit itself states only that “Constellation shall use reasonable efforts to keep each PM CEMS operating and producing data whenever either Unit served by the PM CEMS is operating,” and does not indicate that PM CEMS will be used to determine compliance. Permit, at 35–36. Further, based on our review of PM CEMS data for 2010 obtained from MDE, it appears that Constellation is not measuring particulate matter pollution during SSM periods. As a preliminary matter, MDE must revise the Permit to clarify that PM CEMS will be used to demonstrate compliance with the synthetic minor limits and that Constellation must measure

particulate matter pollution during SSM periods. See, e.g., Wheelabrator Order, at 10 (noting that “MDE does not have the discretion to issue a permit without specifying the monitoring methodology needed to assure compliance with applicable requirements in the title V permit”).

2. The monitoring method is not sufficient because it fails to account for condensable PM.

In any event, PM CEMS is not sufficient to demonstrate compliance with the Total PM/PM 10 limit because this emission limit includes both filterable and condensable PM. Permit, at 28. Condensable PM pollution contains a much higher proportion of the finer particles that are considered most harmful to human health. See, e.g., U.S. Env'tl. Prot. Agency, Module 3: Characteristics of Particles – Particle Size Categories, <http://www.epa.gov/apti/bces/module3/category/category.htm#condensable> (last visited July 14, 2011); U.S. Env'tl. Prot. Agency, Particulate Matter, <http://www.epa.gov/air/particlepollution/health.html> (last visited July 14, 2011). We fully support continuous monitoring and are pleased that MDE is encouraging the use of PM CEMS. According to EPA, however, PM CEMS do not measure condensable PM.

In addition to PM CEMs, Units BS-1 and BS-2 are also subject to a compliance assurance monitoring (CAM) plan for PM. Id. at 36. While the CAM plan establishes an indicator range for opacity for the four boilers, the Permit and Fact Sheet do not indicate whether the indicator range accounts for emissions of condensable PM or is correlated for the synthetic minor limits. Id. For example, if stack tests used to establish the relationship between opacity and PM were conducted using Method 5, the indicator range will not account for condensable PM. In addition, the CAM plan states that opacity is not measured during “malfunctions or periods when the fans are shut off and there is no flame in the boiler or during periods of start-up and shutdown.”

Permit, at 50. Thus, the testing and monitoring requirements for the synthetic minor Total PM/PM10 limits are insufficient.

As a synthetic minor source, this facility is exempt from compliance with New Source Review. In order to maintain this exemption, Constellation is prohibited from emitting more Total PM/PM10 than the limit identified in the Permit. Accordingly, adequate monitoring is particularly critical in this instance due to the fact that Constellation is able to escape stricter regulation by demonstrating compliance with the synthetic minor limit. MDE must include monitoring sufficient to assure compliance with the synthetic minor Total PM/PM10 limits.

B. The testing and monitoring requirements for Emission Units HAW-1, HAW-2, HAW-3, and HAW-4 are insufficient to assure compliance with SIP limits for PM.

Emissions Units HAW-1, HAW-2, HAW-3, and HAW-4 are subject to SIP limits for PM. Permit, at 76. The maximum allowable emission of particulate matter is 0.03 gr/scfd @ 50% excess air for all boilers. Id. This limit must be met at all times.

The testing and monitoring requirements in the Permit do not assure compliance with the SIP limit for PM because they are too infrequent and do not account for emissions generated during startup, shutdown, and malfunctions. The Permit states that Constellation shall conduct annual testing using EPA Method 5 of 40 CFR Part 60, Appendix A to assure compliance with SIP limits for PM at Units HAW-2 and HAW-3. Permit, at 79. HAW-1 and HAW-4 are only required to conduct a stack test using Method 5 once every two years. Id. at 69. Method 5, however, does not measure emissions during startup, shutdown, and malfunction. Furthermore, an annual stack test, much less a stack test every two years, is clearly insufficient to ensure that Constellation is complying with an emission limit that must be met at all times. See Sierra Club v. U.S. Env'tl. Prot. Agency, 536 F.3d 673 (D.C. Cir. 2008); Wheelabrator Order, at 11–13 (objecting to Title V permit that only required an annual stack test for short term emission limits

for PM, mercury, and other toxic pollutants). As the Sierra Club case makes clear, the frequency of monitoring must bear some relationship to the averaging time used to determine compliance. Id. at 675–77. An annual Method 5 stack test is not adequate because it fails to account for emissions generated during startup, shutdown, and malfunction and is too infrequent to demonstrate compliance with an emission limit that must be met at all times.

Units HAW-1 through HAW-4 are also subject to a compliance assurance monitoring (CAM) plan for PM. Id. at 72, 86. While the CAM plans establish an indicator range for opacity for these boilers, the CAM plans state that opacity is not measured during “malfunctions or periods when the fans are shut off and there is no flame in the boiler or during periods of start-up and shutdown.” Permit, at 74–75, 86–87. The PM SIP limits must be met at all times. Thus, the testing and monitoring requirements for the PM SIP limit for Emissions Units HAW-1 through HAW-4 are insufficient.

C. The testing and monitoring requirements for Emissions Units BS-1 and BS-2 are insufficient to assure compliance with the SIP limit for visible emissions.

Emissions Units BS-1 and BS-2 are prohibited from emitting any visible emissions. Permit, at 27. These units may emit up to 40% opacity during “load changing, soot blowing, start-up, or occasional cleaning of control equipment if . . . [t]he visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.” Id. This emission limit must be met at all times.

Yet the Permit notes that Constellation may discontinue the use of its COMS on Units BS-1 and BS-2 so long as Constellation conducts a Method 9 visible emissions observation once a week for one hour. Permit, at 35. MDE proposes to relax monitoring requirements even further and allow visible observations once per month if no opacity violations are detected after six months. Id. Although MDE states that Constellation must use PM CEMs to demonstrate

compliance with all PM limits, the Permit does not clearly identify PM CEMS as the compliance method, Constellation does not appear to be using PM CEMS to monitor pollution during SSM periods, and PM CEMS do not measure condensable PM pollution. See discussion supra I.A.1. A Method 9 test once per week, much less once per month, is clearly insufficient to determine compliance with an opacity standard that must be met at all times. See Sierra Club v. U.S. Env'tl. Prot. Agency, 536 F.3d 673 (D.C. Cir. 2008); Wheelabrator Order, at 11–13 (objecting to Title V permit that only required an annual stack test for short term emission limits for PM, mercury, and other toxic pollutants). As the Sierra Club case makes clear, the frequency of monitoring must bear some relationship to the averaging time used to determine compliance. Id. at 675–77. Further, Method 9 tests can only be conducted in daylight under certain atmospheric conditions (i.e. no fog or rain).

MDE attempts to diminish the importance of the opacity limit because “the opacity limit is a surrogate to the PM emissions limit as a strategy in the SIP in order to achieve and maintain attainment with the PM NAAQS.” Response to Comments, at 7. MDE’s response to Petitioners’ comments implies that this somehow creates a lower standard with respect to monitoring requirements. Id. (noting that “the need for an enforceable surrogate is no longer necessary” and the weekly and monthly monitoring strategy “will provide the Department with sufficient visible emissions data”). However, as we have noted previously, the monitoring methods for PM are insufficient. See discussion supra I.A.1. Further, the opacity regulation, which must be met at all times, remains in effect—as MDE acknowledges—and the Clean Air Act requires that the Permit include monitoring to assure compliance with *all* emission limits. Response to Comments, at 7. Thus, the Permit does not include sufficient monitoring for the visible emissions limit in the SIP for Emissions Units BS-1 and BS-2. EPA must object to the

Fort Smallwood Permit because it does not contain sufficient monitoring to assure compliance with emission limits.

CONCLUSION

EPA must object to the proposed Permit because it is not in compliance with the Clean Air Act. Without changes to this Permit, Title V's purpose of increasing enforcement and compliance will be defeated. Title V aims to improve accountability and enforcement by "clarify[ing], in a single document, which requirements apply to a source." 57 Fed. Reg. 32250, 32251 (July 21, 1992).

For all of these reasons, Petitioners respectfully request that the Administrator object to the proposed Fort Smallwood Title V Permit and require MDE to revise the proposed Permit in accordance with the Clean Air Act and its implementing regulations.

DATED: July 17, 2011

Respectfully submitted,



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Attorney

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Attachment A



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June 14, 2010

VIA CERTIFIED MAIL AND ELECTRONIC MAIL

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**RE: *Part 70 Operating Permit for Constellation Fort Smallwood Complex
Brandon Shores & H.A. Wagner Generating Stations (No. 24-003-00468)***

Dear Ms. Heafey,

Thank you for the opportunity to submit comments on the draft Title V permit for the Constellation Fort Smallwood Complex (No. 24-003-00468) (Permit or Title V Permit) published for public comment on May 14, 2010. The Environmental Integrity Project and the Chesapeake Climate Action Network appreciate the considerable effort that the Maryland Department of Environment has made to organize and explain the requirements for this facility, and to make emission limitations and monitoring methods reasonably transparent for the public. Our specific comments are as follows:

- I. The Permit should state that Constellation must comply with prevention of significant deterioration (PSD), lowest achievable emission rate (LAER), and synthetic minor limits during startup, shutdown, and malfunction (SSM) events.**

EPA has a long held policy that air quality based emission limits apply at all times—including during SSM events.¹ In a memorandum disallowing blanket exemptions from compliance with State Implementation Plan (SIP) limits during SSM events, EPA notes that “because excess emission might aggravate air quality so as to prevent attainment or interfere with maintenance of the ambient air quality standards, *EPA views all excess emissions as violations of the applicable emission limitation.*”² This rationale applies equally to PSD emission limits “not only because PSD is ambient-based but also because generally, the PSD program is part of the SIP. Even in States where the PSD program is not SIP approved, the

¹ See, e.g., Memorandum from John B. Rasnic, Dir., Stationary Source Compliance Div., U.S. Env'tl. Prot. Agency, on Automatic of Blanket Exemptions for Excess Emissions During Startup, and Shutdowns Under PSD to Linda M. Murphy, Dir., Air, Pesticides & Toxics Mgmt. Div., U.S. Env'tl. Prot. Agency (Jan. 28, 1993).

² Memorandum from Steven A. Herman, Asst. Adm'r for Enforcement & Compliance, U.S. Env'tl. Prot. Agency, on State Implementation Plans: Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown to Regional Administrators, Regions I – X (Sept. 20, 1999) (emphasis added).

emissions limits are established to protect increments and the national ambient air quality standards [NAAQS].”³

Yet the draft Permit includes an exemption from compliance with PSD and LAER limits for sulfuric acid mist (SAM), carbon monoxide (CO), and volatile organic compounds (VOC) during SSM events. Permit, at 29, 32. The Permit states that Emission Units BS-1 and BS-2 shall not exceed 0.027 pounds per million Btu SAM “except during periods of startup, shutdown, or malfunction.” Permit, at 29. These units are also limited to 0.2 pounds per million Btu of CO “except during periods of startup, shutdown, or malfunction. Permit, at 32. The Permit limits VOCs from Emissions Units BS-Unit 1 and BS-Unit 2 to 0.0024 pounds per million Btu “except during periods of startup, shutdown, or malfunction.” Permit, at 32.

While we recognize that the underlying construction permit, Certificate of Public Convenience and Necessity (CPCN) No. 9075, states that Emissions Units BS-1 and BS-2 do not have to comply with the SAM, CO, and VOC emission limits during SSM events, MDE may not incorporate a construction permit that weakens existing SIP limits into a Title V permit. See 42 U.S.C. § 7416 (prohibiting states from adopting regulations or enforcing emission standards that are less stringent than its current SIP). A State may not enforce a standard or limitation that is less stringent than a provision in its SIP until the SIP is amended to reflect the less stringent standard or limitation and EPA approves the amendment. *Id.* MDE’s SIP adopts the federal PSD program requirements. Md. Code Regs. 26.11.06.14(B) (“A person may not construct, modify, or operate, or cause to be constructed, modified, or operated, a Prevention of Significant Deterioration (PSD) source, as defined in COMAR 26.11.01.01B(37), which will result in violation of any provision of 40 CFR § 52.21”). CPCN No. 9075, and the Permit, should not authorize exemptions from compliance with air quality based emission limits during SSM events.

In addition, Emissions Units BS-1 and BS-2 are subject to synthetic minor emission limits for particulate matter (PM) and PM-10. In this case, CPCN No. 9075 does not authorize an exemption from compliance with the synthetic minor limits. CPCN No. 9075, Condition 21(a). However, Table IV-1 incorporates New Source Performance Standards (NSPS) for large fossil fuel boilers. Permit, 27–28. The NSPS contains an exemption from compliance with PM limits during SSM events. 40 C.F.R. § 60.8(c) (noting that excess emissions during SSM events are not violations unless specified). To avoid confusion, the Permit should clarify that Constellation must comply with synthetic minor emission limits for PM and PM-10 during SSM events. Thus, the Title V Permit should state that Constellation must comply with PSD, LAER, and the synthetic minor permit limits during periods of SSM.

³ Memorandum from John B. Rasnic, Dir., Stationary Source Compliance Division, Office of Air Quality Planning & Standards, U.S. Env’tl. Prot. Agency, on Automatic of Blanket Exemptions for Excess Emissions During Startup, and Shutdowns Under PSD to Linda M. Murphy, Dir., Air, Pesticides & Toxics Mgmt. Div., Region I, U.S. Env’tl. Prot. Agency (Jan. 28, 1993).

II. The Permit does not include testing and monitoring requirements sufficient to assure compliance with emission limits.

The Clean Air Act requires that “each permit issued under [Title V] shall set forth ... monitoring, compliance certification, and reporting requirements sufficient to assure compliance with the permit terms and conditions” 42 U.S.C. §7661c(c). On August 19, 2008, the D.C. Circuit Court of Appeals struck down an EPA rule that would have prohibited MDE and other state and local authorities from adding monitoring provisions to Title V permits if needed to “assure compliance.” See Sierra Club v. EPA, 536 F.3d 673 (D.C. Cir. 2008). The opinion emphasized the statutory duty to include adequate monitoring in Title V permits:

“By its terms, this mandate means that a monitoring requirement insufficient ‘to assure compliance’ with emission limits has no place in a permit unless and until it is supplemented by more rigorous standards.” Id. at 677.

The D.C. Circuit opinion makes clear that Title V Permits must include monitoring requirements that assure compliance with emission limits. The Court specifically noted that annual testing is unlikely to assure compliance with a short term emission limit, and found that state permitting authorities have a statutory duty to include monitoring requirements that ensure compliance with emission limits in Title V operating permits. See id. at 675. In other words, the frequency of monitoring must bear some relationship to the averaging time used to determine compliance. In fact, EPA recently objected to the Wheelabrator Incinerator Title V permit issued by MDE on June 1, 2009 for failure to include monitoring requirements sufficient to assure compliance with short term emission limits for PM, mercury, cadmium, lead, sulfur dioxide (SO₂), carbon monoxide (CO), and nitrogen oxides (NO_x), and other pollutants. Wheelabrator Order, 8–13. The draft Fort Smallwood Permit contains similar deficiencies in testing and monitoring requirements.

A. The Permit does not include any testing or monitoring requirements for PSD, LAER, and synthetic minor limits for Emission Units BS-1 and BS-2.

The Permit does not include any testing or monitoring requirements to assure compliance with PSD, LAER, and synthetic minor limits for PM, PM-10, SAM, CO, and VOCs. See Permit, at 32–42. The Permit states that Constellation must submit a Performance Test Plan for PM, PM-10, SAM, CO, and VOCs within sixty days of initial startup. Id. 33–34. In addition, the Permit states that Constellation shall operate Units BS-1 and BS-2 in accordance with an Operations and Maintenance Plan that “shall include a description of good combustion practices and methods to minimize emissions and methods to estimate emissions.” Id. 38–40.

The specific testing and monitoring requirements for these emissions limits must be included in the Permit. Wheelabrator Order, at 10 (noting that “Sierra Club v. EPA made it clear that section 504(c) of the CAA requires all title v permits to contain monitoring requirements to assure compliance with permit terms and conditions”). EPA recently objected to the Wheelabrator Title V permit because MDE failed to include the specific monitoring requirements in the Title V permit for PSD emission limits and only included a statement that MDE would approve the monitoring methodology for estimating emissions. Id. EPA stated that

Title V does not allow states to issue a permit without testing and monitoring requirements on the promise that monitoring methods will be specified at some future date. *Id.* (“EPA agrees [with Petitioners] that MDE does not have the discretion to issue a permit without specifying the monitoring methodology needed to assure compliance with applicable requirements in the title V permit.”).

While the Permit does state that BS-1 and BS-2 are subject to a compliance assurance monitoring (CAM) plan for PM until Constellation obtains approval from MDE for PM CEMS to “qualify as the presumptively acceptable monitoring” method, the CAM plan establishes an indicator range based on the PM SIP limit, not the synthetic minor limit for PM. Permit, at 51; ENSR Corporation, Final Compliance Assurance Monitoring Plan: Brandon Shores Generating Station Unit 1 (01878-121-100-1F) 4–5 (Oct. 2008). The Permit states that “Constellation shall commence continuous operation of the PM CEMS . . . no later than September 30, 2010.” Permit, at 36. In addition to the fact that the PM CEMS is not continuously operating at this time, the Permit fails to require Constellation to measure emissions on a three hour basis or include a methodology to convert PM CEMS data, expressed in grains per dry standard cubic feet, into pounds per million Btu to demonstrate compliance with the synthetic minor limit. Permit, at 36–37. *See* section II.D *infra*. MDE must include testing and monitoring requirements sufficient to assure compliance with the PSD, LAER, and synthetic minor limits applicable to Emission Units BS-1 and BS-2.

B. The testing and monitoring requirements for Emission Units BS-1, BS-2, HAW-1, HAW-2, HAW-3, and HAW-4 are insufficient to assure compliance with SIP limits for PM.

Emissions Units BS-1, BS-2, HAW-1, HAW-2, HAW-3, and HAW-4 are subject to SIP limits for PM. Permit, at 27, 68, 76. The maximum allowable emission of particulate matter is 0.03 gr/scfd @ 50% excess air for all boilers. *Id.* This limit must be met at all times and includes both condensable (i.e. liquid) and filterable PM. *Id.* The Maryland SIP defines PM as “any material, except water in uncombined form, that is or has been airborne, and exists as a *liquid or solid* at standard conditions.” 40 C.F.R. § 52.1070(c); Md. Code Regs. 26.11.01.01(B)(29)(emphasis added). PM emissions “means all finely divided *solid or liquid* material, other than uncombined water, discharged into ambient air.” 40 C.F.R § 52.1070(c); Md. Code Regs. 26.11.01.01(B)(30)(emphasis added). Thus, condensible fractions of PM are included in the SIP emission limit, and the Permit must include testing and monitoring requirements that measure condensible PM.

Condensable PM pollution contains a much higher proportion of the finer particles that are considered most harmful to human health. Yet the testing and monitoring requirements in the Permit do not assure compliance with the SIP limit for PM because they do not measure the condensable fractions of PM. The Permit states that Constellation shall conduct annual testing using EPA Method 5 of 40 CFR Part 60, Appendix A to assure compliance with SIP limits for PM at Units BS-1, BS-2, HAW-2, and HAW-3. Permit, at 33, 79. HAW-1 and HAW-4 are only required to conduct a stack test using Method 5 once every two years. *Id.* at 69. Method 5, however, does not measure the condensible fractions of PM. Furthermore, an annual stack test, much less a stack test every two years, is clearly insufficient to ensure that Constellation is

complying with an emission limit that must be met at all times. See Sierra Club v. U.S. Envtl. Prot. Agency, 536 F.3d 673 (D.C. Cir. 2008); Wheelabrator Order, at 11–13 (objecting to Title V permit that only required an annual stack test for short term emission limits for PM, mercury, and other toxic pollutants). As the Sierra Club case makes clear, the frequency of monitoring must bear some relationship to the averaging time used to determine compliance. Id. at 675–77. An annual Method 5 stack test is not adequate because it fails to account for the condensible fraction of PM emissions and is too infrequent to demonstrate compliance with an emission limit that must be met at all times.

The Permit also states that Constellation is required to install and operate PM continuous emissions monitoring systems (CEMS) for Units BS-1 and BS-2. Id. at 36. We fully support continuous monitoring and are pleased that MDE is encouraging the use of PM CEMS. According to EPA, however, PM CEMS do not measure condensable PM. Opacity can serve as a surrogate for condensable PM if appropriate indicator ranges are established, and Units BS-1 and BS-2 operate continuous opacity monitoring systems (COMS). However, the Permit does not state that opacity is a surrogate for condensable PM or include an appropriate indicator range. See Permit, at 36–37. In addition, the Permit states that Constellation may discontinue use of COMS for units that operate a PM CEMS.⁴ Id. at 37.

Units BS-1, BS-2, and HAW-1 through HAW-4 are also subject to a compliance assurance monitoring (CAM) plan for PM. Id. at 51, 72, 86. While the CAM plans establish an indicator range for opacity for the four boilers, it is not clear whether the indicator range accounts for emissions of condensable PM. Id. For example, if stack tests used to establish the relationship between opacity and PM were conducted using Method 5, the indicator range will not account for condensable PM. In addition, the CAM plans state that opacity is not measured during “malfunctions or periods when the fans are shut off and there is no flame in the boiler or during periods of start-up and shutdown.” Permit, at 51, 74–75, 86–87. Thus, the testing and monitoring requirements for the PM SIP limit are insufficient.

C. The testing and monitoring requirements for Emission Units BS-1 and BS-2 are insufficient to assure compliance with NSPS limits for PM.

Emission Units BS-1 and BS-2 are prohibited from emitting PM in excess of “43 nanograms per joule (ng/J) heat input (0.10 lb/MMBtu).” Permit, at 27. With respect to PM emissions, the Permit requires Constellation to (1) conduct a stack test for PM annually, (2) comply with a CAM plan for PM, and (3) install and operate PM CEMS. Permit, at 33, 36, 51. However, none of these test methods assure compliance with the NSPS limits for PM. First, an annual stack test does not assure compliance with an emission limit that must be met at all times. See Sierra Club, 536 F.3d 673. Second, the Permit does not articulate the relationship between the NSPS PM limit and opacity, and the CAM Plan’s indicator range does not appear to be established for the NSPS limit. ENSR Corporation, Final Compliance Assurance Monitoring Plan: Brandon Shores Generating Station Unit 1 (01878-121-100-1F) 4–5 (Oct. 2008). Finally, the Permit does not require that Constellation measure PM emissions on an hourly basis or

⁴ As we noted in our comments on MDE’s proposed opacity rules in March of 2010, MDE should not phase out the requirement to operate a COM once a PM CEMS is operating. PM CEMS do not measure condensable PM emissions and opacity can serve as a surrogate for the condensable fractions of PM.

include the methodology to convert PM CEMS data into pounds per million Btu. See section II.D infra. Thus, the Permit does not include sufficient monitoring to assure compliance with the NSPS limit for PM.

- D. The Permit should state that the PM CEMS must measure PM emissions from Emission Units BS-1 and BS-2 on a one hour and three hour average, and include the methodology to convert PM CEMS data into pounds per million Btu to assure compliance with the SIP, synthetic minor limit, and NSPS for PM.**

The Permit states the PM CEMS must measure PM emissions in “grains per dry standard cubic feet on a 24-hour rolling average basis, unless State or federal law or regulations require a different averaging period or different procedures, in which case, Constellation shall be subject to applicable state or federal requirements.” Permit, at 36. The SIP and synthetic minor limit for PM are both measured on a three hour average basis. Md. Code Regs. 26.11.09.06(C)(noting that compliance “shall be calculated as the average of three test runs”); Permit, at 28. The new source performance standard (NSPS) limit appears to be measured on an hourly basis. See 40 C.F.R. § 60.46(b)(2)(i) (noting that each test run to determine PM concentration shall be at least 60 minutes) and 40 C.F.R. § 60.8(f)(stating that “[e]ach [test] run shall be conducted for the time and under the conditions specified in the applicable standard.”

The SIP limit for PM is expressed in “grains per dry standard cubic feet.” Permit, at 27. However, the synthetic minor limit and NSPS limit is expressed in “pounds per million Btu.” Id. at 29. As discussed above, EPA recently objected to the Wheelabrator Title V permit because MDE did not include the specific monitoring methodology to “convert CEMS data, expressed in parts per million, into mass emissions data for demonstrating compliance with . . . short term PSD emission limits.” Wheelabrator Order, at 11. Thus, the Permit should state that Constellation must measure PM emissions on a one hour and three hour average to assure compliance with the SIP, synthetic minor, and NSPS limits, and include the methodology to convert PM CEMS data into pounds per million Btu.

- E. The testing and monitoring requirements for Emissions Units BS-1 and BS-2 are insufficient to assure compliance with the SIP limit for visible emissions.**

The Permit notes that Constellation may discontinue the use of its COMS on Units BS-1 and BS-2 if Constellation submits an alternative monitoring plan to MDE and conducts a Method 9 visible emissions observation once a week for one hour. Permit, at 35. MDE proposes to relax monitoring requirements even further, and allow visible observations once per month if no opacity violations are detected after six months. Id. A Method 9 test once per week, much less once per month, is clearly insufficient to determine compliance with an opacity standard that must be met at all times, and the Permit places no deadlines for submission and approval of alternative monitoring plans. Furthermore, the final alternative monitoring plan approved by MDE must be included in the Title V Permit. See Wheelabrator Order and discussion section II.A supra.

Although Constellation intends to install and operate PM CEMS, PM CEMS will not be used to demonstrate compliance with emission limits until the fall of 2010. Permit, at 37. In addition, PM CEMS does not measure for condensable fractions of PM and opacity can serve as surrogate for these emissions. See discussion section II.B supra. Thus, the Permit does not include sufficient monitoring for the visible emissions limit in the SIP.

Thank you for considering our comments.

Sincerely,



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