

I. INTRODUCTION

1. This is a civil action for declaratory and injunctive relief, with costs and fees under the Clean Air Act, 42 U.S.C. § 7401 et. seq., and the declaratory judgment statute, 28 U.S.C. §§ 2201 and 2202.

2. Environmental Integrity Project, Chesapeake Climate Action Network, and Physicians for Social Responsibility, Chesapeake, Inc. (collectively, “Plaintiffs”) seek an order declaring that the Defendant, the Administrator of the United States Environmental Protection Agency (“Administrator”), is required, pursuant to 42 U.S.C. § 7661d(b)(2), to grant or deny a petition filed by Plaintiffs (“Petition”) requesting that the Administrator object to Title V Operating Permit No. 24-003-0468 (“Proposed Permit” or “Permit”), issued by the Maryland Department of the Environment (“MDE”) to Raven Power Fort Smallwood, LLC (“Raven”) for operation of the Fort Smallwood Complex, which houses the Brandon Shores power plant and the Wagner power plant, and is located in Anne Arundel County, Maryland. See Exhibit A (Cover Letter and Petition to Object to Proposed Permit). Plaintiffs also seek an order requiring the Administrator to perform his non-discretionary duty to grant or deny this petition.

II. JURISDICTION, VENUE AND NOTICE

3. This action is brought under the Clean Air Act, which is a federal statute. The Defendant is an agency of the United States government. Thus, this Court has subject matter jurisdiction over the claims set forth in this complaint pursuant to 28 U.S.C. §§ 1331 (federal question) and 1346 (United States as defendant).

4. This case does not concern federal taxes, is not a proceeding under 11 U.S.C. §§ 505 or 1146, nor does it involve the Tariff Act of 1930. Thus, this Court has authority to order the declaratory relief requested under 28 U.S.C. § 2201. If the Court orders such relief, 28 U.S.C.

§ 2202 authorizes this Court to issue injunctive relief, and 28 U.S.C. § 2412 authorizes this Court to award Plaintiffs their costs and attorneys' fees.

5. A substantial part of the alleged events or omissions giving rise to Plaintiffs' claims occurred in the District of Columbia. In addition, this suit is being brought against the Administrator in his official capacity as an officer or employee of the United States Environmental Protection Agency ("EPA"), residing in the District of Columbia. Thus, venue is proper in this Court, pursuant to 28 U.S.C. § 1391(e).

6. On April 17, 2017, as required by 42 U.S.C. § 7604(b)(2), Plaintiffs notified the Administrator of the violations alleged in this complaint and of Plaintiffs' intent to sue if the Administrator did not respond to Plaintiffs' Petition to object to the Proposed Permit within 60 days. See Exhibit B (Notice of Intent to Sue) (attachments omitted). More than 60 days have passed since Defendant received this notice of intent to sue letter. Defendant has not remedied the violations alleged in this complaint. Therefore, an actual controversy exists between the parties.

III. PARTIES

7. Plaintiff ENVIRONMENTAL INTEGRITY PROJECT ("EIP") is a national non-profit corporation 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 coal-fired power plants.

8. EPA's failure to timely respond to the Petition, which demonstrates that the Proposed Permit fails to comply with the law, adversely affects EIP's ability to assure that the permit complies with Clean Air Act requirements.

9. Plaintiff CHESAPEAKE CLIMATE ACTION NETWORK ("CCAN") is a grassroots, non-profit organization founded to transition the Chesapeake Bay region toward clean-energy

solutions to climate change, specifically in Maryland, Virginia, and Washington, D.C. CCAN's mission is to educate and mobilize citizens in a way that fosters a rapid societal switch to clean energy sources. This mission includes ensuring that facilities that contribute to global warming, such as coal-fired power plants, do not impact the health of CCAN's members or the environment through emitting dangerous pollutants.

10. CCAN's mission and its members are adversely impacted if Title V permits do not comply with the Clean Air Act and thus allow power plants and other facilities to emit more pollutants than they should be allowed to emit under the Act — or if permits do not assure compliance with the limits established under the Act. CCAN petitioned the Administrator to object to the Proposed Permit because the Permit fails to comply with applicable Clean Air Act requirements. The Administrator's failure to perform his non-discretionary duty to grant or deny Plaintiffs' Petition injures the organizational interests of CCAN as well as the concrete public health interests of its members.

11. Plaintiff PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC. ("Chesapeake PSR") is dedicated to creating a healthy, just and peaceful world for both present and future generations. Among other efforts, Chesapeake PSR uses its medical and public-health expertise to promote clean, renewable energy and to minimize the amount of air pollution emitted from coal-fired power plants. Chesapeake PSR, which has approximately 300 members, actively participates in the regulatory and permitting processes for coal-fired power plants in an effort to ensure that Maryland adequately addresses public-health issues associated with the operation of these plants.

12. Chesapeake PSR and its members would be harmed if the Proposed Permit did not comply with the Clean Air Act. Chesapeake PSR petitioned the Administrator to object to the Proposed

Permit because it fails to comply with applicable Clean Air Act requirements. The Administrator's failure to perform his non-discretionary duty to grant or deny this petition injures the organizational interests of CCAN as well as the concrete public health interests of its members.

13. Plaintiffs have an interest in ensuring that the Permit complies with all applicable federal requirements. Members and employees of Plaintiff organizations live, work, and recreate in areas that are affected by air pollution from both power plants at the Fort Smallwood Complex. These members and employees—and the Plaintiff organizations themselves—will be adversely affected if EPA fails to object to this Permit.

14. Defendant SCOTT PRUITT is the Administrator of the Environmental Protection Agency. The Administrator is responsible for implementing and enforcing the Clean Air Act. As described below, the Clean Air Act assigns to the Administrator a non-discretionary duty to grant or deny timely-filed Title V petitions within 60 days.

IV. LEGAL BACKGROUND

15. The Clean Air Act is designed to protect and enhance the quality of the Nation's air so as to promote the public health and welfare and productive capacity of its population. 42 U.S.C. § 7401(b)(1). To advance this goal, Congress amended the Act in 1990 to establish the Title V operating permit program. See 42 U.S.C. §§ 7661–61f. Title V of the Clean Air Act provides that “[a]fter the effective date of any permit program approved or promulgated under this subchapter, it shall be unlawful for any person to violate any requirement of a permit issued under this subchapter, or to operate . . . a major source . . . except in compliance with a permit issued by a permitting authority under this subchapter.” 42 U.S.C. § 7661a(a).

16. Raven's Fort Smallwood Complex is a major source subject to Title V permitting requirements.

17. The Clean Air Act provides that the Administrator may approve a state's program to administer the Title V operating permit program with respect to sources within its borders. 42 U.S.C. § 7661a(d). The Administrator approved Maryland's administration of its Title V operating permit program. 61 Fed. Reg. 1974 (Jan. 15, 2003). Thus, MDE is responsible for issuing Title V operating permits in Maryland.

18. Before MDE may issue, modify, or renew a Title V permit, it must forward the proposed permit to EPA for review. 42 U.S.C. § 7661d(a)(1)(B). The Administrator then has 45 days to review the proposed permit. The Administrator must object to the permit if he finds that the proposed permit does not comply with all applicable provisions of the Clean Air Act. 42 U.S.C. § 7661d(b)(1). If the Administrator does not object to the permit during EPA's 45-day review period, "any person may petition the Administrator within 60 days" to object to the permit. 42 U.S.C. § 7661d(b)(2).

19. If a petition is timely filed, the Administrator has a non-discretionary duty to grant or deny it within 60 days. Id.; New York Public Interest Research Group v. Whitman, 214 F. Supp. 2d 1, 2 (D.D.C. 2002).

20. The Clean Air Act authorizes citizen suits "against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionary with the Administrator." 42 U.S.C. § 7604(a)(2).

V. FACTUAL BACKGROUND

21. The Fort Smallwood Complex is located in northern Anne Arundel County, Maryland. The complex consists of two electrical generating stations, which are collectively permitted to burn coal, oil, and natural gas. One is the Brandon Shores plant and the other is the Wagner plant. Each plant emits pollutants including particulate matter.

22. MDE issued a draft version of the Fort Smallwood Complex Permit for public comment on May 19, 2016. Plaintiffs timely submitted comments on the draft version of the Permit on June 17, 2016. These comments included the issues that would later be the basis for Plaintiffs' Petition.

23. EPA failed to object to the Proposed Permit within the 45-day review period.

24. After EPA failed to object to the Proposed Permit within the 45-day review period under 42 U.S.C. § 7661d(b)(1), Plaintiffs—on February 3, 2017—timely filed their Petition for EPA to object to the Permit. See 42. U.S.C. § 7661d(b)(2). The Petition was based on objections that were raised during the notice and comment period. Specifically, Plaintiffs objected to monitoring requirements that are insufficient to assure compliance with emission limits for visible emissions and for particulate matter.

25. Though the Administrator was required to grant or deny Plaintiffs' Petition within 60 days, see 42 U.S.C. § 7661d(b)(2), he has not yet done so.

26. On April 17, 2017, Plaintiffs sent Defendant notice of their intent to sue the Administrator for his failure to grant or deny Plaintiffs' Petition within 60 days.

VI. CAUSE OF ACTION

FAILURE TO RESPOND TO PLAINTIFFS' PETITION

[42 U.S.C. § 7661d(b)(2)]

27. Plaintiffs re-allege and incorporate the allegations set forth in Paragraphs 1–26.

28. The Clean Air Act required Defendant to act on the Petition within 60 days of its filing. 42 U.S.C. § 7661d(b)(2) (stating that “[t]he Administrator shall grant or deny such a petition within 60 days after the petition is filed.”) (emphasis added). This is a non-discretionary duty. New York Public Interest Research Group v. Whitman, 214 F.Supp.2d at 3.

29. It has been more than 60 days since Defendant received Plaintiffs' Petition, yet Defendant has failed to respond to the Petition.

30. In failing to respond to Plaintiffs' Petition, EPA has violated the Clean Air Act.

31. Defendant's failure to grant or deny the Petition constitutes a failure to perform an act or duty that is not discretionary, actionable under 42 U.S.C. § 7604(a)(2).

PRAYER FOR RELIEF

WHEREFORE, based upon the allegations set forth above, Plaintiffs respectfully request that this Court:

- A. Declare that Defendant's failure to grant or deny the Plaintiffs' Petition within 60 days constitutes a failure to perform acts or duties that are not discretionary within the meaning of 42 U.S.C. § 7604(a)(2);
- B. Order the Defendant to grant or deny Plaintiffs' Petition within 60 days;
- C. Retain jurisdiction over this action to ensure compliance with the Court's Order;
- D. Award Plaintiffs their costs and fees related to this action; and
- E. Grant such other relief as the Court deems just and proper.

DATED: JUNE 23, 2017

ATTORNEY OF RECORD

/s/ Adam Kron _____
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Attorney for Plaintiffs

EXHIBIT A

Cover Letter and Petition to Object to Title V Operating Permit No. 24-003-0468, Issued to Raven Power Fort Smallwood, LLC for the Fort Smallwood Complex, consisting of the Brandon Shores and Wagner Generating Stations, in Anne Arundel County, Maryland



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February 3, 2017

Via e-mail and certified mail

US EPA
Office of Air Quality Planning and Standards
Air Quality Policy Division
Operating Permits Group Leader
109 T.W. Alexander Dr. (C-504-01)
Research Triangle Park, NC 27711
titleVpetitions@epa.gov

**Re: Petition for Objection to Raven Power Fort Smallwood, LLC Title V
Operating Permit for a Coal Plant Complex in Anne Arundel County,
Maryland (Permit No. 24-003-0468)**

Dear Sir or Madam:

Enclosed is a petition requesting that the U.S. Environmental Protection Agency (EPA) object to Title V Permit No. 24-003-0468, issued to Raven Power Fort Smallwood LLC, for operation of two electrical generating stations in Anne Arundel County, Maryland. This petition is timely submitted by the Environmental Integrity Project, Chesapeake Climate Action Network, Sierra Club, and Chesapeake Physicians for Social Responsibility (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), Raven Power Fort Smallwood, LLC, and EPA Region III.

Thank you for your prompt attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Leah Kelly', is written over a horizontal line.

Leah Kelly
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Via U.S. mail

**BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION
AGENCY**

RAVEN POWER FORT SMALLWOOD, LLC)
PROPOSED PERMIT NUMBER)
24-003-0468) PETITION TO OBJECT TO PERMIT
ISSUED BY THE MARYLAND)
DEPARTMENT OF THE ENVIRONMENT)
)
)
)
)
)

Pursuant to section 505(b)(2) of the Clean Air Act, 42 U.S.C. § 7661d(b)(2), and 40 C.F.R. § 70.8(d), Chesapeake Climate Action Network, Sierra Club, Environmental Integrity Project (“EIP”), and Physicians for Social Responsibility, Chesapeake, Inc. (collectively, “Petitioners”) petition the Administrator of the U.S. Environmental Protection Agency to object to the proposed Title V Operating Permit Number 24-003-0468 (“Proposed Permit” or “Permit”) issued by the Maryland Department of the Environment (“MDE”) to Raven Fort Smallwood, LLC (“Raven”) for the Fort Smallwood complex. As described in more detail below, the Fort Smallwood complex houses two separate electrical generating stations, the Brandon Shores plant and the Wagner plant, which collectively fire coal, natural gas, and oil. The Fort Smallwood complex is located in Anne Arundel County, Maryland. As required by these cited provisions, Petitioners are filing this Petition with the EPA Administrator via e-mail and certified U.S. mail, and providing copies via e-mail and certified U.S. mail to MDE, Raven, and EPA Region III.

EPA must object to the Proposed Permit because it is not in compliance with the Clean Air Act. Specifically, the Permit fails to include monitoring requirements sufficient to assure compliance with the visible emissions limit for units 1 and 2 at the Brandon Shores plant, and MDE failed to significantly respond to significant comments made by Petitioners relating to these monitoring requirements. In addition, the monitoring requirements of the Proposed Permit

fail to assure compliance with a limit for total particulate matter (“PM”) and particulate matter with a diameter of ten microns or less (PM₁₀) for Brandon Shores units 1 and 2.

Background

The Fort Smallwood coal plant complex is located in Anne Arundel County, Maryland.¹ The complex consists of two electrical generating stations “co-located on a 456-acre site.” One is the Brandon Shores plant and the other is the Wagner plant. The primary emission units at the Brandon Shores plant are two coal-burning boilers (units 1 and 2) “with a combined nominal generating capacity of approximately 1,370 megawatts (MW).”² The primary emission units at the Wagner plant are four steam generating units “with a combined nominal rating of approximately 1,040 MW.” Two of these boilers (units 2 and 3) are coal-fired boilers, one (unit 1) is natural gas-fired and one (unit 4) is oil-fired.³

The Maryland Department of the Environment (“MDE”) issued a draft renewal Title V permit for the Fort Smallwood complex on May 19, 2016. Timely comments were submitted on the draft permit on June 17, 2016 by Petitioners.⁴ All issues raised in this Petition were set forth in Petitioners’ June 17, 2016 comments to MDE. MDE made several revisions to the draft permit in response to Petitioners’ comments and provided Petitioners with its response to comments⁵ on November 10, 2016.⁶ MDE provided Petitioners with the revised permit, referred to herein as the “Proposed Permit” or “Permit,” on December 19, 2016.⁷ The issuance date of the Proposed Permit, as identified on the cover page, is January 1, 2017.

¹ Air & Radiation Mgmt. Admin., MDE, Raven Power Fort Smallwood, LLC, Part 70 Operating Permit Fact Sheet Permit No. 24-003-0468 (“Fact Sheet”) at 1.

² *Id.*

³ *Id.* at 2.

⁴ Public comment letter from Leah Kelly, Attorney, EIP, to Shannon Heafey, Air Quality Permits Program, MDE (June 17, 2016) (“Public Comments”) (Attachment A).

⁵ Air & Radiation Mgmt. Admin., MDE, Raven Power Fort Smallwood Complex Draft Part 70 Operating Permit Response to Comments (“MDE Response to Comments”) (Attachment B).

⁶ Email from Karen Irons, Manager, Air Quality Permits Program, MDE, to Leah Kelly, Attorney, EIP (Nov. 10, 2016) (Attachment C).

⁷ Email from Shannon Heafey, Air Quality Permits Program, MDE, to Leah Kelly, Attorney, EIP (Dec. 19, 2016) (Attachment D).

Petitioners

Petitioner Chesapeake Climate Action Network (“CCAN”) is a regional grassroots, non-profit organization with 18,000 members in Maryland. CCAN was founded to transition the region towards clean-energy solutions to climate change, specifically in Maryland, Virginia, and Washington, D.C. CCAN's mission is to educate and mobilize citizens in a way that fosters a rapid societal switch to clean energy sources. This mission includes ensuring that facilities that contribute to global warming, such as coal-fired power plants, do not impact the health of CCAN's members or the environment through emitting dangerous pollutants. CCAN's mission and its members are adversely impacted if Title V permits do not comply with the Clean Air Act and thus permit power plants and other facilities to emit more pollutants than they should be allowed to emit under the Act — or if permits do not assure compliance with the limits established under the Act.

Petitioner Chesapeake Physicians for Social Responsibility (“Chesapeake PSR”) is dedicated to creating a healthy, just and peaceful world for both the present and future generations. Among other efforts, Chesapeake PSR uses its medical and public-health expertise to promote clean, renewable energy and to minimize the amount of air pollution emitted from coal-fired power plants. Chesapeake PSR, which has approximately 300 members, actively participates in the regulatory and permitting processes for coal-fired power plants in an effort to ensure that Maryland adequately addresses public-health issues associated with the operation of these plants. Chesapeake PSR and its members would be harmed if either plant at the Fort Smallwood complex were to emit more particulate or visible emissions than legally permissible and thus adversely affect public health.

Petitioner Sierra Club is the nation's largest and oldest grassroots environmental organization, with a mission to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments. Sierra Club's Maryland Chapter has over 14,000 members. For decades, the Sierra Club in Maryland has worked to clean up and protect the State's air, water and lands, and to promote public health through regulatory, legislative and legal processes, and through grassroots engagement. Sierra Club has members who live in proximity to the Fort Smallwood complex

and would be adversely affected if the Permit's inadequate monitoring requirements allowed the plant to emit particulate matter and visible emissions in excess of Permit limits.

Petitioner EIP is a Washington, D.C. based non-profit founded to advocate for the effective enforcement of environmental laws, with a specific focus on the Clean Air Act and large stationary sources of air pollution like the Fort Smallwood complex and each of the plants housed therein. As one method of achieving its mission, EIP participates in permitting proceedings for major sources of air pollution in the State of Maryland. EIP's ability to carry out its mission of improving the enforcement of environmental laws is adversely impacted if EPA fails to object to the issuance of Title V permits that do not comply with the Clean Air Act.

Thus, Petitioners would each be harmed if EPA failed to object to the Permit.

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."⁸ EPA "does not have discretion whether to object to draft permits once noncompliance has been demonstrated."⁹ Here, EPA must object to the Proposed Permit for the reasons discussed below.

I. The Proposed Permit Fails to Assure Compliance with the Visible Emissions Limit for Brandon Shores Units 1 and 2¹⁰

EPA must object to the Proposed Permit because it does not include monitoring conditions that assure compliance with the visible emissions limit for units 1 and 2 at the Brandon Shores plant. The weekly or monthly visual observations required for demonstrating compliance with this limit cannot ensure that the limit, which applies at all times, will be met. In addition, MDE failed to substantively respond to significant comments submitted by Petitioners on this issue.

⁸ 42 U.S.C. § 7661d(b)(1) (1990) (emphasis added).

⁹ 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 a petitioner has demonstrated that a permit does not comply with the Clean Air Act).

¹⁰ Petitioners raise this issue on pages 8-9 of their public comments. (Attachment A.)

A. The Permit Must Include Monitoring Requirements that Assure Compliance With Emission Limits and the Rationale for Monitoring Requirements Must be Documented in the Permit Record

The Clean Air Act states that Title V permits must include monitoring and reporting requirements sufficient to assure compliance with all applicable emission limits and standards.¹¹ Monitoring requirements must “assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement.”¹²

Monitoring must be sufficiently frequent to assure compliance with a given limit. The D.C. Circuit Court of Appeals has specifically stated that Title V requires 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.”¹³ The court has also acknowledged that the mere existence of periodic monitoring requirements may not be sufficient.¹⁴ For example, the court noted that annual testing is unlikely to assure compliance with a daily emission limit.¹⁵ In other words, the frequency of monitoring methods must bear a relationship to the averaging time used to determine compliance.

Permit-issuing authorities are obligated to revise permits to supplement inadequate monitoring requirements. EPA has stated that, pursuant to 40 C.F.R. § 70.6(c)(1), “if there is some periodic monitoring in the applicable requirement but that monitoring is not sufficient to assure compliance, permitting authorities must supplement monitoring to assure such compliance.”¹⁶

In addition, agencies that issue Title V permits “must include a rationale for the monitoring requirements selected that is clear and documented in the permit record.”¹⁷

¹¹ 42 U.S.C. § 7661c(c).

¹² 40 C.F.R. § 70.6(a)(3)(i)(B); 40 C.F.R. § 70.6(c)(1) (requiring “compliance certification, testing, monitoring, reporting, and recordkeeping requirements *sufficient to assure compliance with the terms and conditions of the permit*”) (emphasis added).

¹³ See *Sierra Club v. EPA*, 536 F.3d 673, 677 (D.C. Cir. 2008).

¹⁴ *Id.* at 676–77.

¹⁵ *Id.* at 675.

¹⁶ *In the Matter of Tennessee Valley Authority, Bull Run, Clinton, Tennessee*, Order on Petition IV-2015-14 (Nov. 10, 2016) (“*TVA Bull Run Order*”) at 8 (citing e.g. *In the Matter of CITGO Refining and Chemicals Col, L.P., West Plant, Corpus Christi, Texas*, Order on Petition No. VI-2007-01 (May 28, 2009)).

¹⁷ *TVA Bull Run Order* at 8 (internal citations omitted); *In the Matter of Mettiki Coal, LLC, Garrett County, Maryland* Order on Petition III-2013-1 (Sept. 26, 2014) (“*Mettiki Coal Order*”) at 7-8.

B. Monitoring Requirements in the Proposed Permit Fail to Assure Compliance with Visible Emissions Limit for Brandon Shores Units 1 and 2

Units 1 and 2 at the Brandon Shores plant are subject to a visible emissions limit deriving from Maryland's State Implementation Plan ("SIP"). Specifically, Raven

may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using [continuous opacity monitoring ("COM")] data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity [This limit does not apply] during load changing, soot blowing, startup, or adjustments of occasional cleaning of control equipment if:

- (a) The visible emissions are not greater than 40 percent opacity; and
- (b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.¹⁸

This is an emission limit that applies at all times, with narrow exceptions for the circumstances identified in the limit itself.

The Proposed Permit allows Raven to show compliance with this limit using COM (continuous opacity) data or visual observations performed for one hour per week or one hour per month, using EPA Reference Method 9.¹⁹ Weekly observations are required initially.

If after a six month period time [sic], no violations of the opacity limit are observed, the frequency of observation may be reduced to once per month. At any point in time that a violation of the opacity limit is observed, the observations shall return to the weekly schedule until another six month period elapses without a violation.²⁰

Petitioners consider COM to be a sufficient method for assuring compliance with the visible emissions limit. However, the alternative monitoring approach allowed under the Proposed Permit - Method 9 observations for one hour per week or one hour per month - is insufficient to assure compliance with a visible emissions limit that must be met at all times.²¹ In addition, as stated in Petitioners' comments, "Method 9 observations require ideal weather conditions and cannot be made in conditions such as at night, during rainfall, or on cloudy

¹⁸ Proposed Permit at 35; COMAR 26.11.09.05.

¹⁹ Proposed Permit at 42.

²⁰ *Id.*

²¹ See *Sierra Club*, 536 F.3d at 676-677.

days.”²² EPA has previously found that a Title V permit record failed to sufficiently support the use of weekly Method 9 observations to assure compliance with a continuous opacity limit.²³ As discussed in more detail below, the use of weekly Method 9 measurements is similarly unsupported in the present instance.

C. MDE’s Response Fails to Show That Weekly or Monthly Method 9 Observations are Sufficient to Assure Compliance With the Visible Emissions Limit for Brandon Shores Units 1 and 2

MDE’s response to Petitioners’ comments on this issue is set forth on pages 7 to 8 of the MDE Response to Comments. However, this response does not demonstrate that weekly or monthly Method 9 observations are sufficient to assure compliance with a limit that applies at all times. Accordingly, the Administrator must object to the Proposed Permit because Petitioners have demonstrated that it fails to assure ongoing compliance with applicable limits.

MDE states in its response to comments that “[i]t is an accepted fact that COM[] cannot be used on stacks with moisture in stack gases. This is the case for the stacks at Brandon Shores Units 1 and 2.”²⁴ MDE further states that

The opacity standard in COMAR is a surrogate for the PM standard. Prior to the development of continuous particulate emission monitors, the only means of determining compliance with the PM standard was a stack test. In order to assess compliance with a PM standard on a continuous basis, a limit for opacity was established which correlates to the PM standard.²⁵ Now that PM CEMS have been demonstrated to measure accurately PM emissions, an opacity limit is no longer necessary.²⁶

²² Public Comments at 9. (Attachment A.)

²³ *In the Matter of EME Homer City Generation L.P. Indiana County, Pennsylvania*, Order on Petitions III-2012-06, III-2012-07, and III-2013-02 (June 30, 2014) (“*Homer City Order*”) at 44; *see also In the Matter of Pacficorp’s Jim Bridger and Naughton Electric Utility Steam Generating Plants*, Order on Petition No. VIII-00-1 (Nov. 16, 2000) at 19 (quarterly Method 9 observations were inadequate to assure compliance with SIP opacity limits.)

²⁴ MDE Response to Comments at 7. (Attachment B)

²⁵ MDE does not explicitly state that the visible emissions limit for Brandon Shores units 1 and 2 in the Proposed Permit (Proposed Permit at 35-36) is directly correlated with the PM limit in the Proposed Permit (Proposed Permit at 36) for those units. However, it does not appear that the underlying SIP limits for visible emissions can be correlated directly to the Maryland’s SIP limits for PM. The visible emissions limits in Maryland’s SIP differ by region, and the limit to which Brandon Shores units 1 and 2 are subject is the most protective of these. COMAR 26.11.09.05A(1)-(2). Conversely, only a single set of PM SIP limits apply statewide for solid-fuel burning boilers. COMAR 26.11.09.06B(3); COMAR 26.11.09.09 (Table 1).

²⁶ MDE Response to Comments at 7. (Attachment B.)

Rather than addressing Commenters' demonstration that weekly or monthly Method 9 observations do not assure compliance with Maryland's federally enforceable visible emissions limit, MDE contends – incorrectly – that the limit itself is unnecessary. The Clean Air Act and EPA's regulations are clear that SIP requirements remain enforceable until changed through the SIP revision process and that neither EPA nor state permitting authorities may issue orders that modify SIP requirements with respect to a stationary source.²⁷

MDE also provides an example of an EPA rule, within the New Source Performance Standards ("NSPS"),²⁸ allowing "affected sources which operate a PM CEMS" to ask EPA for permission to comply with the rule's PM standard instead of its opacity standard.²⁹ However, this is not instructive because no similar language exists in Maryland's SIP for the visible emissions limit at issue.

MDE's response does not set forth an adequate rationale for the selected monitoring requirements. In particular, MDE's response does not demonstrate that the monitoring requirements assure compliance with the visible emissions limit, which must be met at all times with narrow circumstantial exceptions. This demonstration is also not provided elsewhere in the Permit record. The visible emissions limit remains fully effective and has not been removed from the SIP. Therefore, monitoring requirements must be sufficient to assure compliance with this limit.³⁰

D. MDE Failed to Respond to Significant Comments Relating to Monitoring for the Visible Emissions Limit

In addition, MDE failed to respond to significant comments submitted by Petitioners on this issue. Permit-issuing agencies "have a responsibility to respond to significant comments," and EPA has objected in the past when state permitting authorities have failed to so respond.³¹

Petitioners, in their public comments on the Proposed Permit, stated that:

²⁷ 42 U.S.C. § 7410 (i) and (l); 40 C.F.R. § 51.105; *see also General Motors v United States*, 496 U.S. 530, 540 (1990).

²⁸ The NSPS referenced by MDE is at 40 Part 60 Subpart D. MDE Response to Comments at 7. (Attachment B.)

²⁹ MDE Response to Comments at 7-8. (Attachment B.)

³⁰ 40 C.F.R. § 70.6(c)(1).

³¹ *In the Matter of Wheelabrator Baltimore, L.P., Baltimore Maryland*, Permit No. 24-510-01886 (April 14, 2010) ("Wheelabrator Order") at 7-8 (granting objection because of permitting authority's failure to substantively respond to significant comments).

If the plant truly cannot use COM[] because of a [flue gas desulfurization] device, MDE should establish a PM limit that correlates to the SIP opacity limit and require the use of continuous monitoring using PM CEMS to assure compliance with the opacity limit. In doing so, MDE must account for the fact that opacity can indicate the presence of sulfuric acid or condensable particles, which are not measured by PM CEMS.³²

MDE did not address this option in its response to comments and has not explained why compliance with the visible emissions limit could not be assured using this monitoring approach. Petitioners' concern about opacity indicating the presence of condensable particles is of particular importance given the inadequacy of the monitoring requirements for condensable PM at Brandon Shores units 1 and 2, as discussed in more detail in Section II below.³³

II. The Proposed Permit Fails to Assure Compliance with the Synthetic Minor Limit for Total PM/PM₁₀ for Brandon Shores Units 1 and 2³⁴

Brandon Shores units 1 and 2 are also subject to Prevention of Significant Deterioration ("PSD") limits for PM/PM₁₀ deriving from a permit issued in 2007. At that time, Raven's predecessor, Constellation Power Source Generation, Inc. ("Constellation"), sought to make several changes at the plant, including increasing heat input from 6,173 MMBtu/hr to 7,128 MMBtu/hr.³⁵ Constellation accepted "synthetic minor" emission limits in order to keep emissions of PM and PM₁₀ below major source thresholds, thereby avoiding PSD requirements.³⁶ The 2007 permit established two synthetic minor limits for PM/PM₁₀. One limit applies only to the filterable fraction of PM/PM₁₀ and the other limit applies to total PM/PM₁₀, including both the filterable and condensable fractions. The Total PM/PM₁₀ limit is "0.034 lb/MMBtu (filterable and condensable), as determined by the average of three stack tests."³⁷

The Proposed Permit fails to require monitoring that assures compliance with the synthetic minor limit for total PM/PM₁₀. This is the case for two reasons. First, the monitoring methods set forth in the Proposed Permit do not clearly require measurement of the condensable

³² Public Comments at 9. (Attachment A.)

³³ In addition, EPA has recognized that opacity is an important real-time check to ensure that PM control devices are functioning properly, especially for plants with higher PM emissions. *See* 74 Fed. Reg. 5072, 5074 (Jan. 28, 2009) (stating, in New Source Performance Standards rule, that since PM "CEMS readings cannot be verified as readily as other CEMS, and since recalibration requires [particulate matter] performance tests, baseline opacity readings can be a valuable secondary check on control device performance and [particulate matter] emissions").

³⁴ This issue is addressed on pages 2 through 6 of the public comments. (Attachment A.)

³⁵ Fact Sheet at 6.

³⁶ *Id.*

³⁷ Proposed Permit at 36.

portion of PM. Second, the requirements in the Proposed Permit do not ensure that total PM (filterable and condensable) will be monitored frequently enough to assure compliance with the emission limit, which applies at all times.

A. The Proposed Permit Does Not Require Measurement of Condensable PM

The Proposed Permit requires monitoring for the total PM/PM₁₀ limit using PM CEMS³⁸ and annual stack testing.³⁹ However, measurement of condensable PM is not clearly required under either method. PM CEMS is incapable of measuring condensable PM. MDE acknowledges this in its response to comments, stating that [t]here is no continuous emissions monitor that specifically measures PM condensables.”⁴⁰

The annual stack testing requirements of the Proposed Permit also do not require measurement of condensable PM. The Proposed Permit requires “annual [stack] testing using EPA Reference Methods of 40 CFR Part 60, Appendix A” and that a protocol for stack testing must be submitted to MDE for approval thirty days prior to the proposed test date.⁴¹ Measurement of condensable PM is not clearly required under these conditions. The Proposed Permit allows Raven to select a monitoring method from an appendix within EPA’s regulations – Appendix A to 40 CFR Part 60 - that includes multiple monitoring methods, not all of which require measurement of condensable PM.⁴² There is no language in the Proposed Permit that requires Raven to select a method from Appendix A that includes measurement or calculation of condensable PM. Finally, while a protocol must be submitted to MDE for approval ahead of testing, there is nothing in the Proposed Permit that compels MDE to ensure that the protocol includes measurement of condensable PM.

³⁸ Proposed Permit at 43, 46.

³⁹ *Id.* at 40.

⁴⁰ MDE Response to Comments at 4. (Attachment B)

⁴¹ Proposed Permit at 40.

⁴² In fact, it appears that 40 C.F.R. Part 60 Appendix A does not provide any method for measuring total PM at higher temperatures. EPA’s regulations indicate that, at higher temperatures, Reference Method 5, which is set forth in 40 C.F.R. Part 60, Appendix A, must be supplemented with EPA Method 202, which is not set forth in that appendix, in order to capture total PM (filterable and condensable). 40 C.F.R. Part 60, Appendix A-3, Method 5, Section 2.0 (“[In Method 5], [p]articulate matter is withdrawn . . . and collected on a glass fiber filter maintained at a temperature of 120 ±14 °C (248 ±25 °F) or such other temperature as specified by an applicable subpart of the standards or approved by the Administrator for a particular application. The PM mass, which includes *any material that condenses at or above the filtration temperature*, is determined gravimetrically after the removal of uncombined water.”) (Emphasis added.) 40 C.F.R. Part 51, Appendix M, Method 202, Section 1.4(h) (“You may use Method 5 . . . to collect filterable PM from stationary sources with temperatures above 30 °C (85 °F) in conjunction with [Method 202, which measures condensables only]. However, if the gas filtration temperature never exceeds 30 °C (85 °F), then use of [Method 202] is not required to measure total primary PM.”)

B. The Proposed Permit Does Require Sufficiently Frequent Monitoring of Total PM/PM₁₀

In addition, the monitoring required under the Proposed Permit is not sufficiently frequent to assure compliance with the synthetic minor limit for total PM/PM₁₀, which must be met at all times.⁴³ Even if the stack testing requirements of the Proposed Permit did require measurement of condensable PM, which they do not, annual testing is not sufficiently frequent to comply with a limit that must be met at all times.⁴⁴ As discussed above, PM CEMS is required, but this technology is incapable of measuring the condensable fraction of total PM, and no method for supplementing the PM CEMS data to account for condensable PM is set forth in the Proposed Permit. Thus, the Proposed Permit does not assure compliance with the total PM/PM₁₀ limit because it does not assure continuous measurement of condensable PM.

C. MDE's Response Fails to Show that Monitoring Requirements Assure Compliance With the Synthetic Minor Limit for Total PM/PM₁₀

MDE's response to Petitioners' comments on this issue is set forth on pages 3 to 4 of the MDE Response to Comments. However, this response does not demonstrate that PM CEMS and annual stack testing using methods in 40 C.F.R. Part 60, Appendix A is sufficient to ensure compliance with this limit. Accordingly, the Administrator must object to the Proposed Permit.

In its Response to Comments, MDE states:

The permit requires Raven Power to conduct the annual stack tests using EPA Reference Methods of 40 CFR Part 60, Appendix A and requires Raven Power to submit a test protocol to [MDE] for approval. There is more than one possible test method in Appendix A that may be used to determine PM and PM condensables. The permit allows the flexibility for Raven Power to select the test method and have it approved by the Department prior to testing.⁴⁵

⁴³ While the total synthetic minor limit for PM/PM₁₀ states that the limit is "as determined by the average of three stack tests" (Proposed Permit at 36), continuous compliance is required because the limit was established to cap annual emissions from Brandon Shores below major source thresholds in order to avoid PSD requirements.

⁴⁴ See *Sierra Club v. EPA*, 536 F.3d at 675.

⁴⁵ MDE Response to Comments at 3. (Attachment B.)

MDE also states that “PM CEMS data will be used to assess compliance with the . . . synthetic minor PM limit.”⁴⁶ MDE explains further that, while there is no method for continuously measuring condensable PM, it is taking the following steps:

MDE uses data collected from the PM CEMS for the filterable portion and data collected from continuous emissions monitors for SO₂ and NO_x to assess compliance for the condensable portion. SO₂ and NO_x emissions are the principal components of the condensables [sic] PM.

The Brandon Shores Units’ emission control systems for PM, SO₂, and NO_x are sized [sic] provide for overcontrol of the pollutants. The results of the stack tests and CEM data collected have shown continuous compliance with all the emissions limits. The margin of compliance has been sufficient to provide a reasonable level of confidence that the condensable PM limits are in continuous compliance. The [synthetic minor] limits were established to set an annual cap on PM emissions . . . [and] are an average number. The emissions control systems have sufficient over control capacity that a short term excursion will not cause the annual cap on PM emissions to be exceeded.⁴⁷

The federally enforceable portion for the permit requires annual tack tests and the use of CEMS for PM, and SO₂ and NO_x. This data provides sufficient data to assess continuous compliance with the . . . synthetic minor emission limits for filterable and condensable PM.⁴⁸

While Petitioners appreciate the time that MDE has taken to explain the approach using SO₂ and NO_x data, there are no conditions within the Proposed Permit that require, or even refer to, this method. The Proposed Permit requires monitoring for NO_x and SO₂ via CEMS,⁴⁹ but it does not require Raven to use this information in any way to determine compliance with the total PM/PM₁₀ emissions limit for Brandon Shores units 1 and 2. If Raven must evaluate its NO_x and SO₂ emissions to determine ongoing compliance with the total PM/PM₁₀ limit for Brandon Shores, the Proposed Permit must be revised to require Raven to include NO_x and SO₂ in its compliance determination for that limit. Moreover, the Proposed Permit must be revised to

⁴⁶ *Id.*

⁴⁷ The Permit record does not include any support for these statements. The permitting agency’s conclusory statements that the permit limits are unlikely to be violated is not a substitute for monitoring requirements that actually assure ongoing compliance with the applicable limit.

⁴⁸ MDE Response to Comments at 4. (Attachment B.)

⁴⁹ Proposed Permit at 43, 44.

explain *how* Raven is using NO_x and SO₂ CEMS data, in conjunction with PM CEMs (and, if applicable stack test data) to determine compliance with the total PM/PM₁₀ limit.⁵⁰

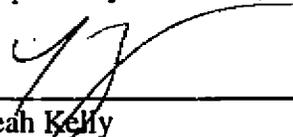
Thus, MDE has failed to set forth an adequate rationale in the Permit record for its selection of monitoring requirements for the synthetic minor limit for total PM/PM₁₀ for Brandon Shores units 1 and 2.

Conclusion

For the reasons discussed above, EPA must object to the Proposed Permit. The monitoring requirements set forth in the Proposed Permit fail to assure compliance with the visible emissions limit for Brandon Shores units 1 and 2, and MDE did not respond to significant comments on this issue. In addition, the Proposed Permit does not assure compliance with the synthetic minor limit for total PM/PM₁₀ limit for Brandon Shores units 1 and 2.

DATED: February 3, 2017

Respectfully submitted,



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*On Behalf of Chesapeake Climate Action
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⁵⁰ *In the Matter of Yuhuang Chemical Inc. Methanol Plant, St. James Parish, Louisiana*, Order on Petition No. VI-2015-03 (Aug. 31, 2016) at 18.

Appendix A



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June 17, 2016

Via E-mail & First Class Mail Return Receipt Requested

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Re: Draft Title V Permit for Raven Fort Smallwood Complex (Permit No. 24-003-0468) Public Comments

Dear Ms. Heafey:

Thank you for the opportunity to comment on the Maryland Department of the Environment's ("MDE's") Draft Title V Permit No. 24-003-0468 ("Permit" or "Draft Permit") for Raven Power's ("Raven's") Fort Smallwood Complex in Anne Arundel County, which consists of two coal-fired power plants: the Brandon Shores Generating Station ("Brandon Shores") and the Herbert A. Wagner Generating Station ("Wagner"). These comments are submitted by the Environmental Integrity Project ("EIP"), Sierra Club, Chesapeake Climate Action Network ("CCAN") and Chesapeake Physicians for Social Responsibility (collectively, "Commenters"). We appreciate MDE's efforts to organize and explain the requirements for this facility and to make emission limitations and monitoring methods reasonably transparent for the public. However, as described below in more detail, the permit falls short of compliance with Clean Air Act Title V requirements.

I. The Draft Permit Does Not Require Monitoring Sufficient to Assure Compliance With Emission Limits for Wagner Units 1, 2, 3, and 4.

The Clean Air Act ("CAA") states that Title V permits must include monitoring and reporting requirements sufficient to assure compliance with all applicable emission limits and standards. 42 U.S.C. § 7661c(c). In 2008, the D.C. Circuit Court of Appeals vacated an EPA rule that would have prohibited MDE and other state 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). In doing so, the court specifically stated that Title V requires that a "monitoring requirement insufficient 'to assure compliance' with emission limits has no place in a [Title V] permit unless and until it is supplemented by more rigorous standards." *Id.* at 677. In addition, the court acknowledged that the mere existence of periodic monitoring requirements may not be sufficient. *Id.* at 676-77. For example, the court noted that annual testing is unlikely to assure compliance with a daily emission limit. *Id.* at 675. In other words, the frequency of monitoring must have a reasonable relationship to the averaging time used to determine compliance.

A. Monitoring Requirements are Insufficient to Assure Compliance with PM Limits for Wagner Units 1, 2, 3, and 4

For each of the Wagner Units (1, 2, 3, and 4) the Draft Permit establishes a PM limit of 0.03 gr/scfd @ 50% air. Draft Permit at 102, 112. This limit derives from Maryland's State Implementation Plan ("SIP") at COMAR 26.11.09.06B(2) (*see also* COMAR 26.11.09.09 Table 1). This limit must be at all times at each unit, including periods of startup, shutdown and malfunction ("SSM").

The monitoring requirements set forth in the Draft Permit for Wagner Units 1-4 are insufficient because the annual stack testing required cannot assure compliance with a limit that must be met at all times and the compliance assurance monitoring ("CAM") plans for each unit exclude monitoring during SSM events. The Draft Permit, under "Testing Requirements," requires annual stack testing for PM for Wagner Units 1-4. Draft Permit at 103, 115. While Commenters appreciate that MDE has increased the frequency of stack testing requirements for Wagner Units 1 and 4 and is no longer allowing stack testing for these units every two years, as it was under the prior permit, this requirement remains insufficient. Annual stack testing cannot assure compliance with a continuous limit. *See Sierra Club*, 536 F.3d at 675.

In addition, under "Monitoring Requirements," the Draft Permit refers to the requirements of the CAM plans for the respective unit. Draft Permit at 104, 116. However, the requirements of the CAM plans are also insufficient to assure compliance with the PM limit. The Draft Permit establishes a separate CAM plan for each unit (1-4) at the Wagner plant. Three of these units (Units 1-3) use an electrostatic precipitator ("ESP") as the PM control and the fourth (Unit 4) uses a "multi-cyclone mechanical collector."¹ The CAM plan for each unit treats opacity as the primary indicator for the PM limit. Draft Permit at 109-111, 123-125. However, MDE has failed to set adequate requirements for this indicator, which is measured by a Continuous Opacity Monitor ("COM") in the CAM plans.

Under "Monitoring Frequency," the CAM plans all state: "Opacity is measured on a continuous basis with the exceptions of malfunction or periods when the fans are shut off and there is no flame in the boiler or during period [sic] of start-up and shutdown." Draft Permit at 110, 111, 124, 125. Monitoring that does not include measurements during SSM periods of unlimited duration cannot assure compliance with a limit that must be met at all times. *See In the Matter of Mettiki Coal, LLC*, Permit No. 24-023-0042 (EPA, September 20, 2014) at 9 (requiring MDE to either explain how a CAM plan that excludes SSM periods can assure compliance with a limit that applies at all times or to modify the permit).

The CAM plan provisions for opacity are further insufficient because the indicator range established for opacity is described as "[a]n internal, non-enforceable trigger level of [10.2% for Units 1, 10.6% for Unit 4, 13.6% for Unit 2, and 15.4% for Unit 3] average opacity." *Id.* at 109, 110, 123, 125. If the trigger level is not enforceable, it is entirely unclear how it can ensure

¹ MDE has identified the pollution control for Wagner Unit 4 as a "multi-cyclone mechanical collector" (Draft Fact Sheet at 74) but the CAM Plan for Wagner Unit 4 refers to an ESP as the control for that unit. MDE should correct the CAM plan to refer to the correct pollution control device for Wagner Unit 4.

compliance with the associated PM limit. In addition, while the Draft Permit states that “[t]he unit operators will take corrective action when the [opacity] trigger is exceeded,” the corrective action to be taken is not specified in the CAM plan or elsewhere in the permit.

For Wagner Units 1 and 3, the Draft Permit establishes a second indicator for PM in the CAM plans. Draft Permit at 110-111, 124-125. However, the requirements for the second indicator do even less to assure compliance with the PM limit than the requirements for opacity as the primary indicator. The second indicator is “Monitor ESP Power Management Alarm.” No numerical standards of any type are set forth for this indicator and the qualitative standards are vague and unenforceable. For example, the CAM plans set forth the following for this indicator:

Measurement Approach	Operators oversee the ESP unit operation and will react as appropriate to control system alarms that indicate abnormal operation.
II. Indicator Range	The activation of the alarm indicates possible operation of the ESP outside the normal operating conditions.

Draft Permit at 110-111, 124-125.

Thus, the combination of annual stack testing and inadequate CAM plans cannot assure compliance with SIP-based PM limits for Wagner Units 1-4.

B. Monitoring Requirements are Insufficient to Assure Compliance With Opacity Limits for Wagner Units 1, 2, 3, and 4 If Opacity is Not Measured During SSM Events

Wagner Units 1-4 are also subject to limits for visible emissions. Specifically, the limit for each unit is 10% opacity when demonstrating compliance using COM data, with the limited exception that this does not apply “during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if: (a) The visible emissions are not greater than 40 percent opacity; and (b) The visible emissions do not occur for more than 6 consecutive minutes.” Draft Permit at 102, 111.

Nowhere in the testing, monitoring, or other requirements associated with this visible emissions limit are there exceptions for SSM events at Wagner Units 1-4. In fact, under “Monitoring Requirements,” the Draft Permit States that, for control of visible emissions, “[t]he Permittee shall continuously monitor opacity of the stack gases using a continuous opacity monitor . . .” Draft Permit at 104, 116 (emphasis added). If MDE is allowing Raven to discontinue monitoring during SSM events, as allowed in the CAM plans for PM, then that would also have the effect of preventing monitoring that assures compliance with the visible emissions limit. MDE must explain whether COMS monitoring is required during SSM events and, if not, how monitoring assures compliance with the visible emission limit for each unit at the Wagner plant.

II. The Draft Permit Does not Include Monitoring Requirements that Assure Compliance with Synthetic Minor PM and PM10 Limits for Brandon Shores Units 1 and 2

The Draft Permit also fails to set forth monitoring requirements that assure compliance with “synthetic minor” PM/PM10 emission limits for the two coal-fired units at the Brandon Shores plant: Units 1 and 2. Draft Permit at 38-39. The Maryland Public Service Commission and MDE approved a substantial increase capacity for both units in 2006, increasing the firing rate from 6,173 MMBtu/hr to 7,128 MMBtu/hr. Fact Sheet at 13. To avoid triggering federal New Source Review requirements for particulate matter, Raven (previously Constellation) agreed to a “synthetic minor” permit to limit emissions of that pollutant.

The PM/PM10 synthetic minor limits for Brandon Shores Units 1 and 2 are as follows:

PM/PM10 - 0.015 lb/MMBtu (filterable) as determined by (1) the average of three stack tests, or (2) if continuous emission monitoring for particulate matter is used to demonstrate compliance, a 24-hour rolling average.

Total PM/PM10: 0.034 lb/MMBtu (filterable and condensable) as determined by the average of three stack tests.

Id.

To satisfy federal New Source Review requirements, all particulate emissions must be included in determining compliance with the synthetic minor permit limit, including emissions during startup, shutdown, and malfunctions. 42 CFR 52.21(b)(41)(ii)(b).

A. The Federally Enforceable Conditions in the Draft Permit Cannot Assure Compliance with the Synthetic Minor PM and PM10 Limits for Brandon Shores Units 1 and 2

The testing and monitoring requirements in the permit do not assure enforceability of these requirements for three reasons.

First, the permit states that compliance may be determined based on a single, annual three-hour stack test. The permit does not expressly require that the stack test measure condensable fractions, which is essential to determining compliance with the 0.034 lb/mmbtu limit.

Second, the permit’s federally enforceable requirements seem to only require annual stack testing to measure compliance with the synthetic minor PM limit, which is supposed to set an annual cap on emissions. This cannot adequately assure that the Synthetic Minor limits are being met during the other thousands of hours of operation each year. That a single stack test result cannot be adequate to determine compliance with a limit that must be met under widely varying operating conditions is clearly shown by EPA’s development of a PM limit as part of the federal Mercury and Air Toxics Standards (“MATS Rule”). MATS includes a particulate matter

emission limit that may be used as a surrogate for control of “non-mercury” hazardous air pollutants. To develop that limit, EPA first identified a PM emission rate reflecting average stack test results from the best-performing (lowest emitting) plants. The Agency then multiplied that rate by greater than a *factor of ten* to establish the PM limit in the final rule, based on the Agency’s determination that an upward adjustment was needed to take into account operational variability (such as during periods of startup, shutdown, malfunction and other periods of operational swings) that could significantly affect stack test results.

Third, as noted above, compliance with NSR (and therefore synthetic minor) limits cannot exclude emissions that may occur during startup, shutdown, or malfunctions. Stack test are conducted under “normal” (sometimes idealized) operating conditions that do not include startup, shutdown, malfunction, or maintenance.

The federally-enforceable portion of the permit must require Raven to monitor continuously to assure compliance with the synthetic minor limit for PM. Such monitoring must capture (or account for) both condensable and filterable PM.

B. The State-Only Enforceable Conditions in the Draft Permit Cannot Assure Compliance with the Synthetic Minor PM and PM10 Limits for Brandon Shores Units 1 and 2

Presumably, the April 19, 2016 Consent Agreement referenced in the state-only enforceable conditions of the Draft Permit was reached in order to address some of these problems.² However, the synthetic minor limits are federally enforceable limits that Raven is using in order to avoid federal NSR requirements, including Best Available Control Technology (“BACT”) requirements. Therefore, associated monitoring requirements must be set forth in the federally enforceable section of the permit and must meet federal standards. Monitoring requirements that are enforceable only by the state (and not EPA or citizens) and meet only state standards are not sufficient.

By putting the provisions of the April 19, 2016 Consent Agreement in the state-only enforceable section (Draft Permit at 212-213), MDE is tacitly acknowledging (correctly) that these requirements do not meet federal standards. These conditions are an improvement upon the monitoring requirements for synthetic minor PM/PM10 limits in the federally enforceable section of the Draft Permit because they require measuring and reporting of data based on 24-hour rolling average bases. Draft Permit at 212-213. In addition, with exceptions, they establish a minimum data availability requirement that the PM CEMS must “obtain valid hourly averages for a minimum of ninety five (95) percent of all Units operating hours in a calendar quarter.” Draft Permit at 212.

However, Commenters note that the requirements of the April 19, 2016 Consent Decree, as set forth in the state-only section of the Draft Permit, still fall short of what is required under federal standards. They require that that PM CEMS be operating and producing data when the applicable unit is “operating” without specifically requiring operation of the PM CEMS during SSM events or defining what it means to be “operating.” *Id.* This fails to assure compliance

² According to the Draft Fact Sheet, this agreement was actually signed on April 19, 2016. Draft Fact Sheet at 4.

with limits that apply at all times, including during SSM. The permit should specify that PM CEMS should be used at any time the relevant unit's boiler is firing. In addition, the Draft Permit states that that "PM CEMS shall be used to demonstrate compliance with applicable PM limits" without identifying the specific PM limits to which they apply (they also cannot assure compliance with the SIP-based PM limit for Brandon Shores Units 1 and 2, as discussed in more detail in Section III below). Draft Permit at 213. Finally, neither the Draft Permit nor the Fact Sheet explains how these monitoring requirements assure compliance with the synthetic minor limits, which require measuring, in one case, of condensable and filterable particles and, in the other, of just filterable particles. Draft Permit at 38-39.

III. The Draft Permit Does Not Include Monitoring Requirements Sufficient to Assure Compliance with the SIP-Based PM Limit for Brandon Shores Units 1 and 2

Brandon Shores Units 1 and 2 are also subject to the same SIP-based PM limit that exists for the Wagner units: 0.03 gr/scfd @ 50% air. Draft Permit at 38. Again, this limit applies at all times.

Under the "testing requirements," the Draft Permit requires annual testing using "EPA Reference Methods of 40 CFR Part 60, Appendix A." Draft Permit at 42-43. As with Wagner, this requirement impermissibly fails to identify the specific method that would be used for stack testing and, thus, prevents Commenters from raising objections during the comment period that may be related to the specific test method. In addition, the Draft Permit states that "[t]he Permittee may petition to use any Method 5 QA/QC testing for the PM CEMS to satisfy the requirement of the annual compliance stack test." *Id.* Under the "monitoring requirements," the Draft Permit states that "[t]he Permittee shall use reasonable efforts to keep each PM CEMS operating and producing data whenever either Unit served by the PM CEMS is operating. [Reference; COMAR 26.11.06.03C and Condition 25 – Consent Decree of June 1, 2007]." Draft Permit at 45 (emphasis omitted). Additional requirements for PM CEMS are also set forth in this section, including that the PM CEMS shall measure:

concentrations 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, the Permittee shall be subject to applicable state or federal requirements. The Permittee shall maintain, in an electronic database, the average emission values recorded by each PM CEMS.

Id. PM CEMS data is also to be reported to MDE in "24-rolling averages, unless State or federal law or regulations require a different averaging period, in which case, the Permittee shall be subject to applicable state or federal requirements."

A. Annual stack testing is insufficient

As an initial matter, while it appears that MDE may intend to require compliance assurance monitoring for the SIP based PM limit for Brandon Shores Units 1 and 2 using PM CEMS, the Draft Permit does not clearly mandate this and allows Raven to choose either the

option of annual stack testing (using an identified method) or using PM CEMS. *See* Draft Permit at 42-43. As stated above, annual stack testing cannot assure compliance with a PM limit that must be met at all times. *See Sierra Club*, 536 F.3d at 675. The Draft Permit must be revised to unambiguously require demonstration of compliance with this PM limit using PM CEMS.

B. PM CEMS monitoring may not be conducted for the SIP-based PM limit using 24-hour measuring and reporting averages

In addition, once PM CEMS is unambiguously required, the Draft Permit must also be revised in order to require monitoring sufficient to assure compliance with the PM limit, which has an averaging period of three – and, at most, six – hours. While the SIP does not specifically state an averaging period, COMAR 26.11.09.06C, which is incorporated verbatim into the permit’s “Emission Limit” states that compliance with the PM limit “shall be calculated as the average of 3 test runs using EPA Test Method 5 or other [EPA] test method approved by the Department.” Although the SIP does not provide a time for each stack-test run, each test run of a PM stack test (including stack tests conducted under Method 5) is generally one or two hours. This has been confirmed by an expert in the industry (*See* Exhibit A Declaration of R. Sahu at ¶¶ 3-4).

Monitoring and reporting PM data in 24-hour blocks cannot assure compliance with a limit with an averaging time of three to six hours. Thus, reporting PM data in 24-hour blocks does not comply with the mandate that Title V permits include monitoring and reporting sufficient to assure compliance with all applicable requirements. Relatedly, with regard to reporting, Maryland regulations specifically provide that a “permit shall contain provisions with respect to all applicable reporting requirements, including requiring the permittee to: (i) Submit reports of required monitoring . . .,” and specifically that CEMS data must be reported quarterly. COMAR 26.11.03.06(C), 26.11.01.11(E)(2)(c).

C. MDE must revise the Draft Permit to clarify that PM CEMS is being operated at all times, including during SSM events

Under the “monitoring requirements,” the Draft Permit states that “[t]he Permittee shall use reasonable efforts to keep each PM CEMS operating and producing data whenever either Unit served by the PM CEMS is operating.” Draft Permit at 45. This is insufficient because it arguably does not require operation of the PM CEMS during SSM events (limiting PM CEMS monitoring to “operating” time only). As stated above, the PM limit applies at all times, including SSM events, and monitoring that excludes SSM events is insufficient to assure compliance with such a limit. MDE must revise this requirement to require that PM CEMS data be collected during SSM events.

The Draft Permit provides two references for this requirement: COMAR 26.11.06.03C and Condition 25 – Consent Decree of June 1, 2007].” Draft Permit at 45. References to COMAR 26.11.06.03C in multiple sections of the Draft Permit appear misplaced as that provision establishes requirements for Particulate Matter from Unconfined Sources and generally sets forth MDE’s “reasonable precautions” requirements for dust control. In addition, according to the Draft Fact Sheet, “the June 1, 2007 Opacity Consent order” was terminated by the April

19, 2016 Consent Agreement, which established a PM CEMS requirement. Draft Fact Sheet at 4. If the referenced Consent Decree has been superseded by a separate agreement, then it no longer provides a basis for this (clearly inadequate) monitoring requirement. MDE must clarify whether this is the case.

D. The state-only enforceable conditions are inadequate

In addition, the provisions of the April 19, 2016 Consent Agreement regarding PM CEMS, which are set forth in the “state-only enforceable” section of the Draft Permit (Draft Permit at 212-213), are insufficient to comply with federal standards for the PM SIP limit. These provisions fail to meet federal standards because: (1) they restate the requirement that PM CEMS be operating and producing data when the applicable unit is “operating” without defining that term; (2) they allow measuring of PM on a 24-hour rolling average basis (unless state or federal laws require otherwise) and reporting of PM on a 24-hour rolling average basis which is insufficient to assure compliance with the 3-6 hour average PM SIP limit; and (3) they state that “PM CEMS data shall be used to demonstrate compliance with applicable particulate matter emissions limitations for Brandon Shores Units 1 and 2” without expressly stating which PM limits this requirement applies to.

IV. The Draft Permit Fails to Assure Compliance with the Opacity Limit Applicable to Brandon Shores Units 1 and 2

Brandon Shores Units 1 and 2 are also subject to a SIP visible emissions limit that prohibits the discharge of emissions “other than water in an uncombined form, which is visible to the human observers,” considered 10% opacity when measured by COMS, and with the limited exception that this limit “does not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if: (a) The visible emissions are not greater than 40 percent opacity; and (b) The visible emissions do not occur for more than 6 consecutive minutes.” Draft Permit at 37-38.

Relying on an exemption in COMAR 26.11.09.05C to the requirement that COM be used to measure opacity, MDE has apparently established the following monitoring requirements for this limit:

The Permittee shall perform a visible emissions observation using an EPA Reference Method 9 of the exhaust from the scrubber stack. The observation shall be performed once a week for one hour period of time. If after a six month period time [sic], no violations of the opacity limit are observed, the frequency of observation may be reduced to once per month. At any point in time that a violation of the opacity limit is observed, the observations shall return to the weekly schedule until another six month period elapses without a violation.

Draft Permit at 44-45.

While we understand that this language in COMAR 26.11.09.05C has been submitted to EPA, it has not been formally approved by EPA and is not part of Maryland's SIP.³ Thus, Raven cannot rely on it to weaken the monitoring requirements for the SIP opacity limit. The weekly (or monthly) visible-emissions observations that the permit allows cannot assure compliance with the SIP opacity limit, which is a limit that applies at all times except for the very limited exceptions for "load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment." Method 9 observations require ideal weather conditions and cannot be made in conditions such as at night, during rainfall, or on cloudy days.

If the plant truly cannot use COMS because of a FGD device, MDE should establish a PM limit that correlates to the SIP opacity limit and require the use of continuous monitoring using PM CEMS to assure compliance with the opacity limit. In doing so, MDE must account for the fact that opacity can indicate the presence of sulfuric acid or condensable particles, which are not measured by PM CEMS.

V. The Draft Permit Impermissibly Weakens the SIP-based PM Limit for Brandon Shores Units 1 and 2 by Expanding the Averaging Time From 3-6 Hours to 24 Hours

MDE must revise the Draft Permit to change the PM CEMS averaging time used for compliance with the SIP-based PM limit. The limit is expressed on a 3-6 hour average basis, and the Draft Permit weakens this by allowing monitoring using a 24-hour rolling average in violation of §§ 110(i) and 116 of the CAA.

Section 116 provides that states "may not adopt or enforce any emission standard or limitation which is less stringent than the standard or limitation under" the SIP. 42 U.S.C. § 7416. Similarly, § 110(i) provides that "no order, suspension, plan revision, or other action modifying any requirement of an applicable implementation plan may be taken with respect to any stationary source by the State or by the Administrator" except under certain actions that are not relevant here — a "primary nonferrous smelter order under section 7419 of this title, a suspension under subsection (f) or (g) of [§ 110 of the Act] (relating to emergency suspensions), an exemption under section 7418 of this title (relating to certain Federal facilities), an order under section 7413(d) of this title (relating to compliance orders [in federal enforcement]), a plan promulgation under subsection (c) of [§ 110], or a plan revision under subsection (a)(3) of [§ 110]." 42 U.S.C. § 7410(i). EPA's regulations also provide that SIP revisions "will not be considered part of an applicable [SIP] until such revisions have been approved by the Administrator in accordance with this part." 40 C.F.R. § 51.105.

Brandon Shores Units 1 and 2 are subject to a SIP-based PM limit of 0.03 gr/scfd @ 50%. Draft Permit at 38. As stated above in Section IIIB, this limit has an averaging period of

³ On June 17, 2016, the submission deadline for these comments, EPA proposed to approve certain revisions to Maryland's SIP, including COMAR 26.11.01.10, which states in paragraph A(4): "The owner or operator of fuel burning equipment subject to this regulation may, with approval by the Department, discontinue use of a COM only in accordance with the provisions in COMAR 26.11.09.05C." See 81 Fed. Reg. 39,605 (June 17, 2016). However, EPA has still not finalized its approval, and at least some of the Commenters hereto will likely submit comments on its proposal to approve the SIP revision.

three – and, at most, six – hours. *See also* Exhibit A (Sahu Affidavit) ¶¶ 3-4. However, the Draft Permit allows Raven to demonstrate compliance with this limit using PM CEMS on a 24-hour rolling average basis. Draft Permit at 45.

This change from an averaging period of 3-6 hours to 24 hours effectively authorizes an emissions increase and weakens the existing PM SIP limit. EPA has recognized that extending averaging periods without lowering limits effectively results in higher limits. *See* 77 Fed. Reg. 39,943, 39,946 (July 6, 2012) (extending the averaging period of a limit, without reducing the numerical emissions rate, results in an “inherently less stringent” limit); 62 Fed. Reg. 67,788, 67,797 (Dec. 30, 1997) (“At a fixed numerical value, a standard or limit is...less stringent as the averaging period increases...”); 61 Fed. Reg. 17,358, 17,431 (April 19, 1996) (“Changing the averaging period would necessitate changing the emission standard” to maintain equivalent stringency); *Mossville Env'tl. Action Now v. E.P.A.*, 370 F.3d 1232, 1241 (D.C. Cir. 2004) (upholding EPA decision to set more stringent standards than those contained in certain permits, because EPA explained that “a longer averaging time...require[s] a lower average limit”).

Here, MDE’s weakening of the PM SIP limit as applied to Brandon Shores violates CAA Sections 110 and 116 as none of the circumstances listed in Section 110(i) are present. *See also In the Matter of Wheelabrator Baltimore, L.P.*, at 7–8 (EPA, Apr. 14, 2010) (granting petition for EPA to object to Title V permit because MDE did not address claim that averaging period from permit weakened PSD limits and thus effectively authorized emission increase above PSD limits).

Nor is this violation resolved by the inclusion in the Draft Permit of the statement that the averaging period is on a rolling 24-hour basis “unless State or federal law or regulations require a different averaging period or different procedures, in which case, the Permittee shall be subject to applicable state or federal requirements.” Draft Permit at 45. The Permit must set forth monitoring sufficient to assure compliance with each limit and may not refer, in a vague and general way, simply require monitoring that complies with the law.

Some of the Commenters also raised this issue in public comments on MDE’s tentative determination to renew the Part 70/Title V permits for the NRG Chalk Point Generating Plant. In response, MDE removed to the state-only enforceable section of the permit the conditions allowing reporting on a 24-hour average for the PM SIP limit and stated that “[t]he permit requires PEMS hourly data in units of gr/scfd to be reported in quarterly monitoring reports. The hourly readings provide MDE the ability to assess compliance with the SIP Limit.” *See* Exhibit B (MDE Response to Environmental Integrity Project (EIP) Comments on Chalk Point Permit (Nov. 2, 2015)) at 3; NRG Energy Chalk Point Generating Station Part 70/Title Permit (No. 24-031-0014) at 43. Commenters appreciate that MDE modified this permit to remove the 24-hour rolling average language and require hourly PM CEMS data collection. For Brandon Shores, Commenters also request that MDE explicitly require—in the federally-enforceable sections of the permit—hourly or, at least, rolling averages of three- to six-hour blocks, for monitoring and reporting of PM emissions in order to comply with the Act.

VI. The Draft Permit Fails to Ensure Compliance with the Sulfur-Content Limit for Wagner Units 1 and 4.

The Draft Permit indicates that Wagner Units 1 and 4 are subject to a continuous sulfur-content limitation of 1.0% for residual fuel oil. Draft Permit at 102-03. Yet the Draft Permit includes no monitoring or reporting requirements to assure compliance with this continuous limit. MDE must revise the permit to include requirements for Raven to adequately monitor the sulfur content of its residual fuel oil and report the results to MDE.

VII. The Draft Permit's Provisions Related to the MATS Rule Are Insufficient to Ensure Compliance with Applicable Emission Limits

The provisions of the Draft Permit relating to the Mercury and Air Toxics Standard (MATS) are also insufficient to ensure compliance with applicable emission limits because they fail to specify which definition of "startup" is applicable and fail to include a compliance monitoring plan.

The Clean Air Act states that Title V permits must include monitoring and reporting requirements sufficient to assure compliance with all applicable emission limits and standards. 42 U.S.C. § 7661c(c). The D.C. Circuit Court of Appeals has specifically stated that Title V requires 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." *See Sierra Club v. EPA*, 536 F.3d 673, 677 (D.C. Cir. 2008). The court has also acknowledged that the mere existence of periodic monitoring requirements may not be sufficient. *Id.* at 676-77. For example, the court noted that annual testing is unlikely to assure compliance with a daily emission limit. *Id.* at 675. In other words, the frequency of monitoring methods must bear a relationship to the averaging time used to determine compliance.

If applicable requirements themselves contain no periodic monitoring, EPA's regulations specifically require permitting authorities to add "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit." 40 C.F.R. § 70.6(a)(3)(i)(B); *see also In the Matter of Mettiki Coal, LLC*, Petition No. III-2013-1 (Sept. 26, 2014) ("Mettiki Order") at 7. In addition, 40 C.F.R. § 70.6(c)(1) acts as a "gap filler" and requires that permit writers must also supplement a periodic monitoring requirement inadequate to the task of assuring compliance. *Sierra Club*, 536 F.3d at 675; *see also Mettiki Order* at 7.

The Draft Permit fails to ensure compliance with the requirements of the MATS rule in two ways. First, the Draft permit does not appear to indicate which MATS definition of "startup" will be used by Raven for either the Brandon Shores or Wagner plants. *See Draft Permit* at 147-148. As a result, it is unclear which set of work practice standards will apply to the facilities during startup. MDE should revise the MATS portions of the Draft Permit to make explicit which of the startup options the plants will employ to meet the requirements of the MATS Rule.

Second, the Draft Permit fails to include a compliance monitoring plan, which is required by the MATS Rule. The MATS Rule state that “[i]f you demonstrate compliance with any applicable emissions limit through use of a continuous monitoring system (CMS), where a CMS includes a continuous parameter monitoring system (CPMS) as well as a continuous emissions monitoring system (CEMS), you must develop a site-specific monitoring plan” 40 C.F.R. § 63.10000(d)(1). It further provides that the site-specific monitoring plan “shall include the information specified in paragraphs (d)(5)(i) through (d)(5)(vii) of this section.” 40 C.F.R. § 63.10000(d)(2). Permittees must also monitor and collect data in the following way to demonstrate continuous compliance: “You must monitor and collect data according to this section and the site-specific monitoring plan required by § 63.10000(d).” 40 C.F.R. § 63.10020(a).

The Draft Permit cannot assure compliance with the MATS Rule's numerical emission limits and other standards without requiring and incorporating the monitoring plan that, under the Rule, is supposed to assure that compliance. MDE should require that this plan be developed for Brandon Shores and H.A. Wagner, and the Draft Permit should incorporate the plan(s).

VIII. MDE Must Require Raven to Clarify Whether it Elects to Choose Averaging Among Units for MATS Compliance

Under the MATS rule, Raven is allowed to use emissions averaging among units to meet certain emission limits. *See* Draft Permit at 149. MDE should revise the Draft Permit to identify whether Raven is electing to use this option. At a minimum, it must be clear in the compliance reports that the company files with MDE whether it is using emissions averaging to meet its requirements under MATS.

IX. The Fact Sheet Fails to Establish a Basis for Wagner Unit 1's Purported Exemption from MATS Under 40 C.F.R. § 63.9983(c)

EPA's MATS rule applies to oil- and coal-fired electric utility steam generating units. 40 C.F.R. § 63.9981; *see also id.* § 63.10042 (defining electric utility steam generating unit). Section 63.9983 authorizes a limited exemption for a unit at least 25 MW that “does not meet the definition of a coal- or oil-fired EGU because it did not fire sufficient coal or oil to satisfy the average annual heat input requirement set forth in the definitions for coal-fired and oil-fired EGUs in §63.10042.” *Id.* § 63.9983(c). Specifically, the MATS regulations define an oil-fired electric utility steam generating unit as:

an electric utility steam generating unit meeting the definition of “fossil fuel-fired”⁴ that is not a coal-fired electric utility steam generating unit and that burns oil for more than 10.0 percent of the average annual heat input during the 3 previous calendar years after the compliance date for your facility in §63.9984 or for more than 15.0 percent of the annual heat input during any one of those calendar years. EGU owners and operators must estimate coal, oil, and natural gas usage for the first 3 calendar years after the applicable compliance date and they are solely responsible for assuring compliance with this final rule or other

⁴ 40 C.F.R. § 63.10042. There does not appear to be any dispute that Wagner Unit 1 is fossil fuel-fired.

applicable standard based on their fuel usage projections. After the first 3 years of compliance, EGUs are required to evaluate applicability based on coal or oil usage from the three previous calendar years on an annual rolling basis.”

Id. § 63.10042.

Based on the operational data provided in the Fact Sheet, and absent any documented projection of future oil operations, MDE and Raven have not established that Wagner Unit 1 is exempt from MATS. Specifically, in its fact sheet accompanying the draft Title V permit, MDE provided annual heat input for Wagner Unit 1 for the calendar years 2012 through 2014:

FSC-HAW-Unit 1	2012	2013	2014
Gas Heat Input	747,963	750,358	221,179
Oil Heat Input	0	0	247,830
Total Heat Input	747,963	750,358	469,009
% Oil Heat Input	0%	0%	53%

Source: Fact Sheet at 104.

As the heat input data from the Fact Sheet clearly show, the weighted average annual heat input for 2012 to 2014 was 12.59%,⁵ which exceeds 10%, and the 2014 heat input was 53%, which exceeds 15%. Based on these recent operations, Wagner Unit 1 would be defined as an “oil-fired electric utility steam generating unit” under both alternative parts of the definition and subject to MATS requirements. The Title V permit materials fail to substantiate Raven’s claimed exemption from MATS eligibility.

MDE must either offer a sound rationale for its conclusion that Wagner Unit 1 is exempt from MATS in its response to these comments or it must revise the Draft Permit to ensure that Unit 1 complies with all applicable MATS requirements.

Thank you in advance for your consideration of our comments.

Sincerely,



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⁵ Weighted average oil-fired heat input = Total oil-fired heat input (2012-2014) / Total heat input (2012-2014) = (0 + 0 + 247,830) / (747,963 + 750,358 + 469,009) = 247,830 / 1,967,330 = 12.59%.

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EXHIBIT A

DECLARATION OF DR. RANAJIT (RON) SAHU

Draft Title V Permit for Dickerson Generating Station (Permit No. 24-031-0019)

1. My name is Dr. Ranajit Sahu. I am over twenty-one years of age, and I am competent to testify. The statements set forth in this declaration are based on my own personal knowledge. I am making and I understand that I am making this statement under penalty of perjury.

2. I received my B.S. in mechanical engineering from the Indian Institute of Technology (Kharagpur, India) in 1983, and my M.S. and Ph.D. in mechanical engineering from the California Institute of Technology ("Caltech") in 1984 and 1988, respectively. Since graduating from Caltech, I have worked in the fields of environmental, mechanical and chemical engineering for over 25 years. My work experience has included, among other things: multimedia environmental regulatory compliance involving numerous environmental statutes, including the Clean Air Act; the design, modification, and specification of pollution control equipment and other equipment for multiple coal-fired power plants; work on preparing and/or reviewing hundreds of air permits for numerous industrial and municipal facilities including coal-fired power plants; teaching, from 1992 through 2010, roughly 30 courses on air pollution and its control at several universities, including the University of California, Los Angeles and the University of Southern California; and providing expert services to the U.S. Environmental Protection Agency and the U.S. Department of Justice in multiple Clean Air Act lawsuits involving coal-fired power plants. Additional details regarding my background and experience can be found in my resume provided in the attachment to this declaration.

3. As part of my work over the past 25 years on Clean Air Act permits and pollution controls, teaching courses on air pollution, and serving as an expert in Clean Air Act lawsuits, I estimate that I have reviewed thousands of particulate matter ("PM") stack tests from many

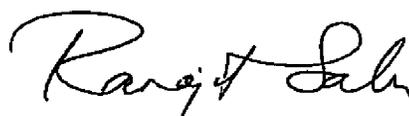
sources — including hundreds of PM stack tests from coal-fired power plants. The overwhelming majority of the PM stack tests that I have reviewed have been conducted using EPA Test Method 5 (or its variants to account for the presence of control equipment such as scrubbers, etc.) since this has been the most common test method used historically. I have also reviewed many more recent stack test reports conducted using EPA Test Method 202 or similar.

4. In the PM stack tests that I have reviewed and based on my knowledge of PM stack testing in the industry, a typical stack-test run is generally one to two hours. This duration is usually sufficient to provide enough sample for analysis from typical coal-fired power plants, with PM controls such as electrostatic precipitators or baghouses.

5. From the PM stack tests that I have reviewed and based on my knowledge of PM stack testing in the industry, I am not aware of any single test run from a PM stack test lasting as long as eight hours. Nor am I aware of any combination of three test runs from the same PM stack test lasting 24 hours combined.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Dated this 11th day of September, 2015.

A handwritten signature in black ink, appearing to read "Ranajit Sahu". The signature is written in a cursive, flowing style.

Dr. Ranajit Sahu

RANAJIT (RON) SAHU, Ph.D, QEP, CEM (Nevada)

CONSULTANT, ENVIRONMENTAL AND ENERGY ISSUES

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EXPERIENCE SUMMARY

Dr. Sahu has over twenty three years of experience in the fields of environmental, mechanical, and chemical engineering including: program and project management services; design and specification of pollution control equipment for a wide range of emissions sources; soils and groundwater remediation including landfills as remedy; combustion engineering evaluations; energy studies; multimedia environmental regulatory compliance (involving statutes and regulations such as the Federal CAA and its Amendments, Clean Water Act, TSCA, RCRA, CERCLA, SARA, OSHA, NEPA as well as various related state statutes); transportation air quality impact analysis; multimedia compliance audits; multimedia permitting (including air quality NSR/PSD permitting, Title V permitting, NPDES permitting for industrial and storm water discharges, RCRA permitting, etc.), multimedia/multi-pathway human health risk assessments for toxics; air dispersion modeling; and regulatory strategy development and support including negotiation of consent agreements and orders.

Specifically, over the last 20+ years, Dr. Sahu has consulted on several municipal landfill related projects addressing landfill gas generation, landfill gas collection, and the treatment/disposal/control of such gases in combustion equipment such as engines, turbines, and flares. In particular, Dr. Sahu has executed numerous projects relating to flare emissions from sources such as landfills as well as refineries and chemical plants. He has served as a peer-reviewer for EPA in relation to flare combustion efficiency, flare destruction efficiency, and flaring emissions.

He has over twenty one years of project management experience and has successfully managed and executed numerous projects in this time period. This includes basic and applied research projects, design projects, regulatory compliance projects, permitting projects, energy studies, risk assessment projects, and projects involving the communication of environmental data and information to the public. Notably, he has successfully managed a complex soils and groundwater remediation project with a value of over \$140 million involving soils characterization, development and implementation of the remediation strategy including construction of a CAMU/landfill and associated groundwater monitoring, regulatory and public interactions and other challenges.

He has provided consulting services to numerous private sector, public sector and public interest group clients. His major clients over the past twenty three years include various steel mills, petroleum refineries, cement companies, aerospace companies, power generation facilities, lawn and garden equipment manufacturers, spa manufacturers, chemical distribution facilities, and various entities in the public sector including EPA, the US Dept. of Justice, California DTSC, various municipalities, etc.). Dr. Sahu has performed projects in over 44 states, numerous local jurisdictions and internationally.

In addition to consulting, Dr. Sahu has taught numerous courses in several Southern California universities including UCLA (air pollution), UC Riverside (air pollution, process hazard analysis), and Loyola Marymount University (air pollution, risk assessment, hazardous waste management) for the past seventeen years. In this time period he has also taught at Caltech, his alma mater (various engineering courses), at the University of Southern California (air pollution controls) and at California State University, Fullerton (transportation and air quality).

Dr. Sahu has and continues to provide expert witness services in a number of environmental areas discussed above in both state and Federal courts as well as before administrative bodies (please see Annex A).

EXPERIENCE RECORD

- 2000-present Independent Consultant.** Providing a variety of private sector (industrial companies, land development companies, law firms, etc.) public sector (such as the US Department of Justice) and public interest group clients with project management, air quality consulting, waste remediation and management consulting, as well as regulatory and engineering support consulting services.
- 1995-2000 Parsons ES, Associate, Senior Project Manager and Department Manager for Air Quality/Geosciences/Hazardous Waste Groups, Pasadena.** Responsible for the management of a group of approximately 24 air quality and environmental professionals, 15 geoscience, and 10 hazardous waste professionals providing full-service consulting, project management, regulatory compliance and A/E design assistance in all areas.
- Parsons ES, Manager for Air Source Testing Services.** Responsible for the management of 8 individuals in the area of air source testing and air regulatory permitting projects located in Bakersfield, California.
- 1992-1995 Engineering-Science, Inc. Principal Engineer and Senior Project Manager** in the air quality department. Responsibilities included multimedia regulatory compliance and permitting (including hazardous and nuclear materials), air pollution engineering (emissions from stationary and mobile sources, control of criteria and air toxics, dispersion modeling, risk assessment, visibility analysis, odor analysis), supervisory functions and project management.
- 1990-1992 Engineering-Science, Inc. Principal Engineer and Project Manager** in the air quality department. Responsibilities included permitting, tracking regulatory issues, technical analysis, and supervisory functions on numerous air, water, and hazardous waste projects. Responsibilities also include client and agency interfacing, project cost and schedule control, and reporting to internal and external upper management regarding project status.
- 1989-1990 Kinetics Technology International, Corp. Development Engineer.** Involved in thermal engineering R&D and project work related to low-NOx ceramic radiant burners, fired heater NOx reduction, SCR design, and fired heater retrofitting.
- 1988-1989 Heat Transfer Research, Inc. Research Engineer.** Involved in the design of fired heaters, heat exchangers, air coolers, and other non-fired equipment. Also did research in the area of heat exchanger tube vibrations.

EDUCATION

- 1984-1988 Ph.D., Mechanical Engineering, California Institute of Technology (Caltech), Pasadena, CA.**
- 1984 M. S., Mechanical Engineering, Caltech, Pasadena, CA.**
- 1978-1983 B. Tech (Honors), Mechanical Engineering, Indian Institute of Technology (IIT) Kharagpur, India**

TEACHING EXPERIENCE

Caltech

- "Thermodynamics," Teaching Assistant, California Institute of Technology, 1983, 1987.**
- "Air Pollution Control," Teaching Assistant, California Institute of Technology, 1985.**
- "Caltech Secondary and High School Saturday Program," - taught various mathematics (algebra through calculus) and science (physics and chemistry) courses to high school students, 1983-1989.**
- "Heat Transfer," - taught this course in the Fall and Winter terms of 1994-1995 in the Division of Engineering and Applied Science.**
- "Thermodynamics and Heat Transfer," Fall and Winter Terms of 1996-1997.**

U.C. Riverside, Extension

- "Toxic and Hazardous Air Contaminants," University of California Extension Program, Riverside, California. Various years since 1992.
- "Prevention and Management of Accidental Air Emissions," University of California Extension Program, Riverside, California. Various years since 1992.
- "Air Pollution Control Systems and Strategies," University of California Extension Program, Riverside, California, Summer 1992-93, Summer 1993-1994.
- "Air Pollution Calculations," University of California Extension Program, Riverside, California, Fall 1993-94, Winter 1993-94, Fall 1994-95.
- "Process Safety Management," University of California Extension Program, Riverside, California. Various years since 1992-2010.
- "Process Safety Management," University of California Extension Program, Riverside, California, at SCAQMD, Spring 1993-94.
- "Advanced Hazard Analysis - A Special Course for LEPCs," University of California Extension Program, Riverside, California, taught at San Diego, California, Spring 1993-1994.
- "Advanced Hazardous Waste Management" University of California Extension Program, Riverside, California. 2005.

Loyola Marymount University

- "Fundamentals of Air Pollution - Regulations, Controls and Engineering," Loyola Marymount University, Dept. of Civil Engineering. Various years since 1993.
- "Air Pollution Control," Loyola Marymount University, Dept. of Civil Engineering, Fall 1994.
- "Environmental Risk Assessment," Loyola Marymount University, Dept. of Civil Engineering. Various years since 1998.
- "Hazardous Waste Remediation" Loyola Marymount University, Dept. of Civil Engineering. Various years since 2006.

University of Southern California

- "Air Pollution Controls," University of Southern California, Dept. of Civil Engineering, Fall 1993, Fall 1994.
- "Air Pollution Fundamentals," University of Southern California, Dept. of Civil Engineering, Winter 1994.

University of California, Los Angeles

- "Air Pollution Fundamentals," University of California, Los Angeles, Dept. of Civil and Environmental Engineering, Spring 1994, Spring 1999, Spring 2000, Spring 2003, Spring 2006, Spring 2007, Spring 2008, Spring 2009.

International Programs

- "Environmental Planning and Management," 5 week program for visiting Chinese delegation, 1994.
- "Environmental Planning and Management," 1 day program for visiting Russian delegation, 1995.
- "Air Pollution Planning and Management," IEP, UCR, Spring 1996.
- "Environmental Issues and Air Pollution," IEP, UCR, October 1996.

PROFESSIONAL AFFILIATIONS AND HONORS

- President of India Gold Medal, IIT Kharagpur, India, 1983.

Member of the Alternatives Assessment Committee of the Grand Canyon Visibility Transport Commission, established by the Clean Air Act Amendments of 1990, 1992-present.

American Society of Mechanical Engineers: Los Angeles Section Executive Committee, Heat Transfer Division, and Fuels and Combustion Technology Division, 1987-present.

Air and Waste Management Association, West Coast Section, 1989-present.

PROFESSIONAL CERTIFICATIONS

EIT, California (# XE088305), 1993.

REA I, California (#07438), 2000.

Certified Permitting Professional, South Coast AQMD (#C8320), since 1993.

QEP, Institute of Professional Environmental Practice, since 2000.

CEM, State of Nevada (#EM-1699). Expiration 10/07/2011.

PUBLICATIONS (PARTIAL LIST)

"Physical Properties and Oxidation Rates of Chars from Bituminous Coals," with Y.A. Levendis, R.C. Flagan and G.R. Gavalas, *Fuel*, 67, 275-283 (1988).

"Char Combustion: Measurement and Analysis of Particle Temperature Histories," with R.C. Flagan, G.R. Gavalas and P.S. Northrop, *Comb. Sci Tech.* 60, 215-230 (1988).

"On the Combustion of Bituminous Coal Chars," PhD Thesis, California Institute of Technology (1988).

"Optical Pyrometry: A Powerful Tool for Coal Combustion Diagnostics," *J. Coal Quality*, 8, 17-22 (1989).

"Post-Ignition Transients in the Combustion of Single Char Particles," with Y.A. Levendis, R.C. Flagan and G.R. Gavalas, *Fuel*, 68, 849-855 (1989).

"A Model for Single Particle Combustion of Bituminous Coal Char." Proc. ASME National Heat Transfer Conference, Philadelphia, HTD-Vol. 106, 505-513 (1989).

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"Particle Measurements in Coal Combustion," with R.C. Flagan, in "Combustion Measurements" (ed. N. Chigier), Hemisphere Publishing Corp. (1991).

"Cross Linking in Pore Structures and Its Effect on Reactivity," with G.R. Gavalas in preparation.

"Natural Frequencies and Mode Shapes of Straight Tubes," Proprietary Report for Heat Transfer Research Institute, Alhambra, CA (1990).

"Optimal Tube Layouts for Kamui SL-Series Exchangers," with K. Ishihara, Proprietary Report for Kamui Company Limited, Tokyo, Japan (1990).

"HTRI Process Heater Conceptual Design," Proprietary Report for Heat Transfer Research Institute, Alhambra, CA (1990).

"Asymptotic Theory of Transonic Wind Tunnel Wall Interference," with N.D. Malmuth and others, Arnold Engineering Development Center, Air Force Systems Command, USAF (1990).

"Gas Radiation in a Fired Heater Convection Section," Proprietary Report for Heat Transfer Research Institute, College Station, TX (1990).

"Heat Transfer and Pressure Drop in NTIW Heat Exchangers," Proprietary Report for Heat Transfer Research Institute, College Station, TX (1991).

"NOx Control and Thermal Design," Thermal Engineering Tech Briefs, (1994).

"From Purchase of Landmark Environmental Insurance to Remediation: Case Study in Henderson, Nevada," with Robin E. Bain and Jill Quillin, presented at the AQMA Annual Meeting, Florida, 2001.

"The Jones Act Contribution to Global Warming, Acid Rain and Toxic Air Contaminants," with Charles W. Botsford, presented at the AQMA Annual Meeting, Florida, 2001.

PRESENTATIONS (PARTIAL LIST)

"Pore Structure and Combustion Kinetics - Interpretation of Single Particle Temperature-Time Histories," with P.S. Northrop, R.C. Flagan and G.R. Gavalas, presented at the AIChE Annual Meeting, New York (1987).

"Measurement of Temperature-Time Histories of Burning Single Coal Char Particles," with R.C. Flagan, presented at the American Flame Research Committee Fall International Symposium, Pittsburgh, (1988).

"Physical Characterization of a Cenospheric Coal Char Burned at High Temperatures," with R.C. Flagan and G.R. Gavalas, presented at the Fall Meeting of the Western States Section of the Combustion Institute, Laguna Beach, California (1988).

"Control of Nitrogen Oxide Emissions in Gas Fired Heaters - The Retrofit Experience," with G. P. Croce and R. Patel, presented at the International Conference on Environmental Control of Combustion Processes (Jointly sponsored by the American Flame Research Committee and the Japan Flame Research Committee), Honolulu, Hawaii (1991).

"Air Toxics - Past, Present and the Future," presented at the Joint AIChE/AAEE Breakfast Meeting at the AIChE 1991 Annual Meeting, Los Angeles, California, November 17-22 (1991).

"Air Toxics Emissions and Risk Impacts from Automobiles Using Reformulated Gasolines," presented at the Third Annual Current Issues in Air Toxics Conference, Sacramento, California, November 9-10 (1992).

"Air Toxics from Mobile Sources," presented at the Environmental Health Sciences (ESE) Seminar Series, UCLA, Los Angeles, California, November 12, (1992).

"Kilns, Ovens, and Dryers - Present and Future," presented at the Gas Company Air Quality Permit Assistance Seminar, Industry Hills Sheraton, California, November 20, (1992).

"The Design and Implementation of Vehicle Scrapping Programs," presented at the 86th Annual Meeting of the Air and Waste Management Association, Denver, Colorado, June 12, 1993.

"Air Quality Planning and Control in Beijing, China," presented at the 87th Annual Meeting of the Air and Waste Management Association, Cincinnati, Ohio, June 19-24, 1994.

Annex A

Expert Litigation Support

1. Occasions where Dr. Sahu has provided Written or Oral testimony before Congress:

- (a) In July 2012, provided expert written and oral testimony to the House Subcommittee on Energy and the Environment, Committee on Science, Space, and Technology at a Hearing entitled "Hitting the Ethanol Blend Wall – Examining the Science on E15."

2. Matters for which Dr. Sahu has have provided affidavits and expert reports include:

- (b) Affidavit for Rocky Mountain Steel Mills, Inc. located in Pueblo Colorado – dealing with the technical uncertainties associated with night-time opacity measurements in general and at this steel mini-mill.
- (c) Expert reports and depositions (2/28/2002 and 3/1/2002; 12/2/2003 and 12/3/2003; 5/24/2004) on behalf of the United States in connection with the Ohio Edison NSR Cases. *United States, et al. v. Ohio Edison Co., et al.*, C2-99-1181 (Southern District of Ohio).
- (d) Expert reports and depositions (5/23/2002 and 5/24/2002) on behalf of the United States in connection with the Illinois Power NSR Case. *United States v. Illinois Power Co., et al.*, 99-833-MJR (Southern District of Illinois).
- (e) Expert reports and depositions (11/25/2002 and 11/26/2002) on behalf of the United States in connection with the Duke Power NSR Case. *United States, et al. v. Duke Energy Corp.*, 1:00-CV-1262 (Middle District of North Carolina).
- (f) Expert reports and depositions (10/6/2004 and 10/7/2004; 7/10/2006) on behalf of the United States in connection with the American Electric Power NSR Cases. *United States, et al. v. American Electric Power Service Corp., et al.*, C2-99-1182, C2-99-1250 (Southern District of Ohio).
- (g) Affidavit (March 2005) on behalf of the Minnesota Center for Environmental Advocacy and others in the matter of the Application of Heron Lake BioEnergy LLC to construct and operate an ethanol production facility – submitted to the Minnesota Pollution Control Agency.
- (h) Expert Report and Deposition (10/31/2005 and 11/1/2005) on behalf of the United States in connection with the East Kentucky Power Cooperative NSR Case. *United States v. East Kentucky Power Cooperative, Inc.*, 5:04-cv-00034-KSF (Eastern District of Kentucky).
- (i) Affidavits and deposition on behalf of Basic Management Inc. (BMI) Companies in connection with the BMI vs. USA remediation cost recovery Case.
- (j) Expert Report on behalf of Penn Future and others in the Cambria Coke plant permit challenge in Pennsylvania.
- (k) Expert Report on behalf of the Appalachian Center for the Economy and the Environment and others in the Western Greenbrier permit challenge in West Virginia.
- (l) Expert Report, deposition (via telephone on January 26, 2007) on behalf of various Montana petitioners (Citizens Awareness Network (CAN), Women's Voices for the Earth (WVE) and the Clark Fork Coalition (CFC)) in the Thompson River Cogeneration LLC Permit No. 3175-04 challenge.
- (m) Expert Report and deposition (2/2/07) on behalf of the Texas Clean Air Cities Coalition at the Texas State Office of Administrative Hearings (SOAH) in the matter of the permit challenges to TXU Project Apollo's eight new proposed PRB-fired PC boilers located at seven TX sites.
- (n) Expert Testimony (July 2007) on behalf of the Izaak Walton League of America and others in connection with the acquisition of power by Xcel Energy from the proposed Gascoyne Power Plant - at the State of Minnesota, Office of Administrative Hearings for the Minnesota PUC (MPUC No. E002/CN-06-1518; OAH No. 12-2500-17857-2).

- (o) Affidavit (July 2007) Comments on the Big Cajun I Draft Permit on behalf of the Sierra Club – submitted to the Louisiana DEQ.
- (p) Expert Report and Deposition (12/13/2007) on behalf of Commonwealth of Pennsylvania – Dept. of Environmental Protection, State of Connecticut, State of New York, and State of New Jersey (Plaintiffs) in connection with the Allegheny Energy NSR Case. *Plaintiffs v. Allegheny Energy Inc., et al.*, 2:05cv0885 (Western District of Pennsylvania).
- (q) Expert Reports and Pre-filed Testimony before the Utah Air Quality Board on behalf of Sierra Club in the Sevier Power Plant permit challenge.
- (r) Expert Report and Deposition (October 2007) on behalf of MTD Products Inc., in connection with General Power Products, LLC v MTD Products Inc., 1:06 CVA 0143 (Southern District of Ohio, Western Division)
- (s) Experts Report and Deposition (June 2008) on behalf of Sierra Club and others in the matter of permit challenges (Title V: 28.0801-29 and PSD: 28.0803-PSD) for the Big Stone II unit, proposed to be located near Milbank, South Dakota.
- (t) Expert Reports, Affidavit, and Deposition (August 15, 2008) on behalf of Earthjustice in the matter of air permit challenge (CT-4631) for the Basin Electric Dry Fork station, under construction near Gillette, Wyoming before the Environmental Quality Council of the State of Wyoming.
- (u) Affidavits (May 2010/June 2010 in the Office of Administrative Hearings)/Declaration and Expert Report (November 2009 in the Office of Administrative Hearings) on behalf of NRDC and the Southern Environmental Law Center in the matter of the air permit challenge for Duke Cliffside Unit 6. Office of Administrative Hearing Matters 08 EHR 0771, 0835 and 0836 and 09 HER 3102, 3174, and 3176 (consolidated).
- (v) Declaration (August 2008), Expert Report (January 2009), and Declaration (May 2009) on behalf of Southern Alliance for Clean Energy et al., v Duke Energy Carolinas, LLC. in the matter of the air permit challenge for Duke Cliffside Unit 6. *Southern Alliance for Clean Energy et al., v. Duke Energy Carolinas, LLC*, Case No. 1:08-cv-00318-LHT-DLH (Western District of North Carolina, Asheville Division).
- (w) Declaration (August 2008) on behalf of the Sierra Club in the matter of Dominion Wise County plant MACT.
- (x) Expert Report (June 2008) on behalf of Sierra Club for the Green Energy Resource Recovery Project, MACT Analysis.
- (y) Expert Report (February 2009) on behalf of Sierra Club and the Environmental Integrity Project in the matter of the air permit challenge for NRG Limestone’s proposed Unit 3 in Texas.
- (z) Expert Report (June 2009) on behalf of MTD Products, Inc., in the matter of *Alice Holmes and Vernon Holmes v. Home Depot U.S.A., Inc., et al.*
- (aa) Expert Report (August 2009) on behalf of Sierra Club and the Southern Environmental Law Center in the matter of the air permit challenge for Santee Cooper’s proposed Pee Dee plant in South Carolina).
- (bb) Statements (May 2008 and September 2009) on behalf of the Minnesota Center for Environmental Advocacy to the Minnesota Pollution Control Agency in the matter of the Minnesota Haze State Implementation Plans.
- (cc) Expert Report (August 2009) on behalf of Environmental Defense, in the matter of permit challenges to the proposed Las Brisas coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).
- (dd) Expert Report and Rebuttal Report (September 2009) on behalf of the Sierra Club, in the matter of challenges to the proposed Medicine Bow Fuel and Power IGL plant in Cheyenne, Wyoming.
- (ee) Expert Report (December 2009) and Rebuttal reports (May 2010 and June 2010) on behalf of the United States in connection with the Alabama Power Company NSR Case. *United States v. Alabama Power Company*, CV-01-HS-152-S (Northern District of Alabama, Southern Division).
- (ff) Pre-filed Testimony (October 2009) on behalf of Environmental Defense and others, in the matter of challenges to the proposed White Stallion Energy Center coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).

- (gg) Pre-filed Testimony (July 2010) and Written Rebuttal Testimony (August 2010) on behalf of the State of New Mexico Environment Department in the matter of Proposed Regulation 20.2.350 NMAC - *Greenhouse Gas Cap and Trade Provisions*, No. EIB 10-04 (R), to the State of New Mexico, Environmental Improvement Board.
- (hh) Expert Report (August 2010) and Rebuttal Expert Report (October 2010) on behalf of the United States in connection with the Louisiana Generating NSR Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana) – Liability Phase.
- (ii) Declaration (August 2010), Reply Declaration (November 2010), Expert Report (April 2011), Supplemental and Rebuttal Expert Report (July 2011) on behalf of the United States in the matter of DTE Energy Company and Detroit Edison Company (Monroe Unit 2). *United States of America v. DTE Energy Company and Detroit Edison Company*, Civil Action No. 2:10-cv-13101-BAF-RSW (US District Court for the Eastern District of Michigan).
- (jj) Expert Report and Deposition (August 2010) as well as Affidavit (September 2010) on behalf of Kentucky Waterways Alliance, Sierra Club, and Valley Watch in the matter of challenges to the NPDES permit issued for the Trimble County power plant by the Kentucky Energy and Environment Cabinet to Louisville Gas and Electric, File No. DOW-41106-047.
- (kk) Expert Report (August 2010), Rebuttal Expert Report (September 2010), Supplemental Expert Report (September 2011), and Declaration (November 2011) on behalf of Wild Earth Guardians in the matter of opacity exceedances and monitor downtime at the Public Service Company of Colorado (Xcel)'s Cherokee power plant. No. 09-cv-1862 (D. Colo.).
- (ll) Written Direct Expert Testimony (August 2010) and Affidavit (February 2012) on behalf of Fall-Line Alliance for a Clean Environment and others in the matter of the PSD Air Permit for Plant Washington issued by Georgia DNR at the Office of State Administrative Hearing, State of Georgia (OSAH-BNR-AQ-1031707-98-WALKER).
- (mm) Deposition (August 2010) on behalf of Environmental Defense, in the matter of the remanded permit challenge to the proposed Las Brisas coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).
- (nn) Expert Report, Supplemental/Rebuttal Expert Report, and Declarations (October 2010, November 2010, September 2012) on behalf of New Mexico Environment Department (Plaintiff-Intervenor), Grand Canyon Trust and Sierra Club (Plaintiffs) in the matter of Plaintiffs v. Public Service Company of New Mexico (PNM), Civil No. 1:02-CV-0552 BB/ATC (ACE). (US District Court for the District of New Mexico).
- (oo) Expert Report (October 2010) and Rebuttal Expert Report (November 2010) (BART Determinations for PSCo Hayden and CSU Martin Drake units) to the Colorado Air Quality Commission on behalf of Coalition of Environmental Organizations.
- (pp) Expert Report (November 2010) (BART Determinations for TriState Craig Units, CSU Nixon Unit, and PRPA Rawhide Unit) to the Colorado Air Quality Commission on behalf of Coalition of Environmental Organizations.
- (qq) Declaration (November 2010) on behalf of the Sierra Club in connection with the Martin Lake Station Units 1, 2, and 3. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Case No. 5:10-cv-00156-DF-CMC (US District Court for the Eastern District of Texas, Texarkana Division).
- (rr) Pre-Filed Testimony (January 2011) and Declaration (February 2011) to the Georgia Office of State Administrative Hearings (OSAH) in the matter of Minor Source HAPs status for the proposed Longleaf Energy Associates power plant (OSAH-BNR-AQ-1115157-60-HOWELLS) on behalf of the Friends of the Chattahoochee and the Sierra Club).
- (ss) Declaration (February 2011) in the matter of the Draft Title V Permit for RRI Energy MidAtlantic Power Holdings LLC Shawville Generating Station (Pennsylvania), ID No. 17-00001 on behalf of the Sierra Club.
- (tt) Expert Report (March 2011), Rebuttal Expert Report (June 2011) on behalf of the United States in *United States of America v. Cemex, Inc.*, Civil Action No. 09-cv-00019-MSK-MEH (US District Court for the District of Colorado).

- (uu) Declaration (April 2011) and Expert Report (July 16, 2012) in the matter of the Lower Colorado River Authority (LCRA)'s Fayette (Sam Seymour) Power Plant on behalf of the Texas Campaign for the Environment. *Texas Campaign for the Environment v. Lower Colorado River Authority*, Civil Action No. 4:11-cv-00791 (US District Court for the Southern District of Texas, Houston Division).
- (vv) Declaration (June 2011) on behalf of the Plaintiffs MYTAPN in the matter of Microsoft-Yes, Toxic Air Pollution-No (MYTAPN) v. State of Washington, Department of Ecology and Microsoft Corporation Columbia Data Center to the Pollution Control Hearings Board, State of Washington, Matter No. PCHB No. 10-162.
- (ww) Expert Report (June 2011) on behalf of the New Hampshire Sierra Club at the State of New Hampshire Public Utilities Commission, Docket No. 10-261 – the 2010 Least Cost Integrated Resource Plan (LCIRP) submitted by the Public Service Company of New Hampshire (re. Merrimack Station Units 1 and 2).
- (xx) Declaration (August 2011) in the matter of the Sandy Creek Energy Associates L.P. Sandy Creek Power Plant on behalf of Sierra Club and Public Citizen. *Sierra Club, Inc. and Public Citizen, Inc. v. Sandy Creek Energy Associates, L.P.*, Civil Action No. A-08-CA-648-LY (US District Court for the Western District of Texas, Austin Division).
- (yy) Expert Report (October 2011) on behalf of the Defendants in the matter of *John Quiles and Jeanette Quiles et al. v. Bradford-White Corporation, MTD Products, Inc., Kohler Co., et al.*, Case No. 3:10-cv-747 (TJM/DEP) (US District Court for the Northern District of New York).
- (zz) Declaration (February 2012) and Second Declaration (February 2012) in the matter of *Washington Environmental Council and Sierra Club Washington State Chapter v. Washington State Department of Ecology and Western States Petroleum Association*, Case No. 11-417-MJP (US District Court for the Western District of Washington).
- (aaa) Expert Report (March 2012) and Supplemental Expert Report (November 2013) in the matter of *Environment Texas Citizen Lobby, Inc. and Sierra Club v. ExxonMobil Corporation et al.*, Civil Action No. 4:10-cv-4969 (US District Court for the Southern District of Texas, Houston Division).
- (bbb) Declaration (March 2012) in the matter of *Center for Biological Diversity, et al. v. United States Environmental Protection Agency*, Case No. 11-1101 (consolidated with 11-1285, 11-1328 and 11-1336) (US Court of Appeals for the District of Columbia Circuit).
- (ccc) Declaration (March 2012) in the matter of *Sierra Club v. The Kansas Department of Health and Environment*, Case No. 11-105,493-AS (Holcomb power plant) (Supreme Court of the State of Kansas).
- (ddd) Declaration (March 2012) in the matter of the Las Brisas Energy Center *Environmental Defense Fund et al. v. Texas Commission on Environmental Quality*, Cause No. D-1-GN-11-001364 (District Court of Travis County, Texas, 261st Judicial District).
- (eee) Expert Report (April 2012), Supplemental and Rebuttal Expert Report (July 2012), and Supplemental Rebuttal Expert Report (August 2012) on behalf of the states of New Jersey and Connecticut in the matter of the Portland Power plant *State of New Jersey and State of Connecticut (Intervenor-Plaintiff) v. RRI Energy Mid-Atlantic Power Holdings et al.*, Civil Action No. 07-CV-5298 (JKG) (US District Court for the Eastern District of Pennsylvania).
- (fff) Declaration (April 2012) in the matter of the EPA's EGU MATS Rule, on behalf of the Environmental Integrity Project
- (ggg) Expert Report (August 2012) on behalf of the United States in connection with the Louisiana Generating NSR Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana) – Harm Phase.
- (hhh) Declaration (September 2012) in the Matter of the Application of *Energy Answers Incinerator, Inc.* for a Certificate of Public Convenience and Necessity to Construct a 120 MW Generating Facility in Baltimore City, Maryland, before the Public Service Commission of Maryland, Case No. 9199.
- (iii) Expert Report (October 2012) on behalf of the Appellants (Robert Concilus and Leah Humes) in the matter of Robert Concilus and Leah Humes v. Commonwealth of Pennsylvania Department of Environmental Protection and Crawford Renewable Energy, before the Commonwealth of Pennsylvania Environmental Hearing Board, Docket No. 2011-167-R.

- (jjj) Expert Report (October 2012), Supplemental Expert Report (January 2013), and Affidavit (June 2013) in the matter of various Environmental Petitioners v. North Carolina DENR/DAQ and Carolinas Cement Company, before the Office of Administrative Hearings, State of North Carolina.
- (kkk) Pre-filed Testimony (October 2012) on behalf of No-Sag in the matter of the North Springfield Sustainable Energy Project before the State of Vermont, Public Service Board.
- (lll) Pre-filed Testimony (November 2012) on behalf of Clean Wisconsin in the matter of Application of Wisconsin Public Service Corporation for Authority to Construct and Place in Operation a New Multi-Pollutant Control Technology System (ReACT) for Unit 3 of the Weston Generating Station, before the Public Service Commission of Wisconsin, Docket No. 6690-CE-197.
- (mmm) Expert Report (February 2013) on behalf of Petitioners in the matter of Credence Crematory, Cause No. 12-A-J-4538 before the Indiana Office of Environmental Adjudication.
- (nnn) Expert Report (April 2013), Rebuttal report (July 2013), and Declarations (October 2013, November 2013) on behalf of the Sierra Club in connection with the Luminant Big Brown Case. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Civil Action No. 6:12-cv-00108-WSS (Western District of Texas, Waco Division).
- (ooo) Expert Report (May 2013) and Rebuttal Expert Report (July 2013) on behalf of the Sierra Club in connection with the Luminant Martin Lake Case. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Civil Action No. 5:10-cv-0156-MHS-CMC (Eastern District of Texas, Texarkana Division).
- (ppp) Declaration (August 2013) on behalf of A. J. Acosta Company, Inc., in the matter of A. J. Acosta Company, Inc., v. County of San Bernardino, Case No. CIVSS803651.
- (qqq) Comments (October 2013) on behalf of the Washington Environmental Council and the Sierra Club in the matter of the Washington State Oil Refinery RACT (for Greenhouse Gases), submitted to the Washington State Department of Ecology, the Northwest Clean Air Agency, and the Puget Sound Clean Air Agency.
- (rrr) Statement (November 2013) on behalf of various Environmental Organizations in the matter of the Boswell Energy Center (BEC) Unit 4 Environmental Retrofit Project, to the Minnesota Public Utilities Commission, Docket No. E-015/M-12-920.
- (sss) Expert Report (December 2013) on behalf of the United States in *United States of America v. Ameren Missouri*, Civil Action No. 4:11-cv-00077-RWS (Eastern District of Missouri, Eastern Division).
- (ttt) Expert Testimony (December 2013) on behalf of the Sierra Club in the matter of Public Service Company of New Hampshire Merrimack Station Scrubber Project and Cost Recovery, Docket No. DE 11-250, to the State of New Hampshire Public Utilities Commission.
- (uuu) Expert Report (January 2014) on behalf of Baja, Inc., in *Baja, Inc., v. Automotive Testing and Development Services, Inc. et. al*, Civil Action No. 8:13-CV-02057-GRA (District of South Carolina, Anderson/Greenwood Division).
- (vvv) Declaration (March 2014) on behalf of the Center for International Environmental Law, Chesapeake Climate Action Network, Friends of the Earth, Pacific Environment, and the Sierra Club (Plaintiffs) in the matter of *Plaintiffs v. the Export-Import Bank (Ex-Im Bank) of the United States*, Civil Action No. 13-1820 RC (United States District Court for the District of Columbia).
- (www) Direct Prefiled Testimony (June 2014) on behalf of the Michigan Environmental Council and the Sierra Club in the matter of the Application of DTE Electric Company for Authority to Implement a Power Supply Cost Recovery (PSCR) Plan in its Rate Schedules for 2014 Metered Jurisdictional Sales of Electricity, Case No. U-17319 (Michigan Public Service Commission).
- (xxx) Expert Report (June 2014) on behalf of ECM Biofilms in the matter of the US Federal Trade Commission (FTC) v. ECM Biofilms (FTC Docket #9358).
- (yyy) Declaration (July 2014) on behalf of Public Health Intervenors in the matter of *EME Homer City Generation v. US EPA* (Case No. 11-1302 and consolidated cases) relating to the lifting of the stay entered by the Court on December 30, 2011 (US Court of Appeals for the District of Columbia).

3. Occasions where Dr. Sahu has provided oral testimony in depositions, at trial or in similar proceedings include the following:

- (zzz) Deposition on behalf of Rocky Mountain Steel Mills, Inc. located in Pueblo, Colorado – dealing with the manufacture of steel in mini-mills including methods of air pollution control and BACT in steel mini-mills and opacity issues at this steel mini-mill.
- (aaaa) Trial Testimony (February 2002) on behalf of Rocky Mountain Steel Mills, Inc. in Denver District Court.
- (bbbb) Trial Testimony (February 2003) on behalf of the United States in the Ohio Edison NSR Cases, *United States, et al. v. Ohio Edison Co., et al.*, C2-99-1181 (Southern District of Ohio).
- (cccc) Trial Testimony (June 2003) on behalf of the United States in the Illinois Power NSR Case, *United States v. Illinois Power Co., et al.*, 99-833-MJR (Southern District of Illinois).
- (dddd) Deposition (10/20/2005) on behalf of the United States in connection with the Cinergy NSR Case. *United States, et al. v. Cinergy Corp., et al.*, IP 99-1693-C-M/S (Southern District of Indiana).
- (eeee) Oral Testimony (August 2006) on behalf of the Appalachian Center for the Economy and the Environment re. the Western Greenbrier plant, WV before the West Virginia ????
- (ffff) Oral Testimony (May 2007) on behalf of various Montana petitioners (Citizens Awareness Network (CAN), Women's Voices for the Earth (WVE) and the Clark Fork Coalition (CFC)) re. the Thompson River Cogeneration plant before the Montana Board of Environmental Review.
- (gggg) Oral Testimony (October 2007) on behalf of the Sierra Club re. the Sevier Power Plant before the Utah Air Quality Board.
- (hhhh) Oral Testimony (August 2008) on behalf of the Sierra Club and Clean Water re. Big Stone Unit II before the South Dakota Board of Minerals and the Environment.
- (iiii) Oral Testimony (February 2009) on behalf of the Sierra Club and the Southern Environmental Law Center re. Santee Cooper Pee Dee units before the South Carolina Board of Health and Environmental Control.
- (jjjj) Oral Testimony (February 2009) on behalf of the Sierra Club and the Environmental Integrity Project re. NRG Limestone Unit 3 before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.
- (kkkk) Deposition (July 2009) on behalf of MTD Products, Inc., in the matter of *Alice Holmes and Vernon Holmes v. Home Depot USA, Inc., et al.*
- (llll) Deposition (October 2009) on behalf of Environmental Defense and others, in the matter of challenges to the proposed Coletto Creek coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).
- (mmmm) Deposition (October 2009) on behalf of Environmental Defense, in the matter of permit challenges to the proposed Las Brisas coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).
- (nnnn) Deposition (October 2009) on behalf of the Sierra Club, in the matter of challenges to the proposed Medicine Bow Fuel and Power IGL plant in Cheyenne, Wyoming.
- (oooo) Deposition (October 2009) on behalf of Environmental Defense and others, in the matter of challenges to the proposed Tenaska coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH). (April 2010).
- (pppp) Oral Testimony (November 2009) on behalf of the Environmental Defense Fund re. the Las Brisas Energy Center before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.
- (qqqq) Deposition (December 2009) on behalf of Environmental Defense and others, in the matter of challenges to the proposed White Stallion Energy Center coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).

- (rrrr) Oral Testimony (February 2010) on behalf of the Environmental Defense Fund re. the White Stallion Energy Center before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.
- (ssss) Deposition (June 2010) on behalf of the United States in connection with the Alabama Power Company NSR Case. *United States v. Alabama Power Company*, CV-01-HS-152-S (Northern District of Alabama, Southern Division).
- (ttt) Trial Testimony (September 2010) on behalf of Commonwealth of Pennsylvania – Dept. of Environmental Protection, State of Connecticut, State of New York, State of Maryland, and State of New Jersey (Plaintiffs) in connection with the Allegheny Energy NSR Case in US District Court in the Western District of Pennsylvania. *Plaintiffs v. Allegheny Energy Inc., et al.*, 2:05cv0885 (Western District of Pennsylvania).
- (uuuu) Oral Direct and Rebuttal Testimony (September 2010) on behalf of Fall-Line Alliance for a Clean Environment and others in the matter of the PSD Air Permit for Plant Washington issued by Georgia DNR at the Office of State Administrative Hearing, State of Georgia (OSAH-BNR-AQ-1031707-98-WALKER).
- (vvvv) Oral Testimony (September 2010) on behalf of the State of New Mexico Environment Department in the matter of Proposed Regulation 20.2.350 NMAC – *Greenhouse Gas Cap and Trade Provisions*, No. EIB 10-04 (R), to the State of New Mexico, Environmental Improvement Board.
- (wwww) Oral Testimony (October 2010) on behalf of the Environmental Defense Fund re. the Las Brisas Energy Center before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.
- (xxxx) Oral Testimony (November 2010) regarding BART for PSCo Hayden, CSU Martin Drake units before the Colorado Air Quality Commission on behalf of the Coalition of Environmental Organizations.
- (yyyy) Oral Testimony (December 2010) regarding BART for TriState Craig Units, CSU Nixon Unit, and PRPA Rawhide Unit) before the Colorado Air Quality Commission on behalf of the Coalition of Environmental Organizations.
- (zzzz) Deposition (December 2010) on behalf of the United States in connection with the Louisiana Generating NSR Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana).
- (aaaa) Deposition (February 2011 and January 2012) on behalf of Wild Earth Guardians in the matter of opacity exceedances and monitor downtime at the Public Service Company of Colorado (Xcel)'s Cherokee power plant. No. 09-cv-1862 (D. Colo.).
- (bbbb) Oral Testimony (February 2011) to the Georgia Office of State Administrative Hearings (OSAH) in the matter of Minor Source HAPs status for the proposed Longleaf Energy Associates power plant (OSAH-BNR-AQ-1115157-60-HOWELLS) on behalf of the Friends of the Chattahoochee and the Sierra Club).
- (ccccc) Deposition (August 2011) on behalf of the United States in *United States of America v. Cemex, Inc.*, Civil Action No. 09-cv-00019-MSK-MEH (US District Court for the District of Colorado).
- (dddd) Deposition (July 2011) and Oral Testimony at Hearing (February 2012) on behalf of the Plaintiffs MYTAPN in the matter of Microsoft-Yes, Toxic Air Pollution-No (MYTAPN) v. State of Washington, Department of Ecology and Microsoft Corporation Columbia Data Center to the Pollution Control Hearings Board, State of Washington, Matter No. PCHB No. 10-162.
- (eeee) Oral Testimony at Hearing (March 2012) on behalf of the United States in connection with the Louisiana Generating NSR Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana).
- (ffff) Oral Testimony at Hearing (April 2012) on behalf of the New Hampshire Sierra Club at the State of New Hampshire Public Utilities Commission, Docket No. 10-261 – the 2010 Least Cost Integrated Resource Plan (LCIRP) submitted by the Public Service Company of New Hampshire (re. Merrimack Station Units 1 and 2).
- (gggg) Oral Testimony at Hearing (November 2012) on behalf of Clean Wisconsin in the matter of Application of Wisconsin Public Service Corporation for Authority to Construct and Place in Operation a New Multi-Pollutant Control Technology System (ReACT) for Unit 3 of the Weston Generating Station, before the Public Service Commission of Wisconsin, Docket No. 6690-CE-197.

- (hhhhh) Deposition (March 2013) in the matter of various Environmental Petitioners v. North Carolina DENR/DAQ and Carolinas Cement Company, before the Office of Administrative Hearings, State of North Carolina.
- (iiii) Deposition (August 2013) on behalf of the Sierra Club in connection with the Luminant Big Brown Case. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Civil Action No. 6:12-cv-00108-WSS (Western District of Texas, Waco Division).
- (jjjj) Deposition (August 2013) on behalf of the Sierra Club in connection with the Luminant Martin Lake Case. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Civil Action No. 5:10-cv-0156-MHS-CMC (Eastern District of Texas, Texarkana Division).
- (kkkk) Deposition (February 2014) on behalf of the United States in *United States of America v. Ameren Missouri*, Civil Action No. 4:11-cv-00077-RWS (Eastern District of Missouri, Eastern Division).
- (llll) Trial Testimony (February 2014) in the matter of *Environment Texas Citizen Lobby, Inc and Sierra Club v. ExxonMobil Corporation et al.*, Civil Action No. 4:10-cv-4969 (US District Court for the Southern District of Texas, Houston Division).
- (mmmm) Trial Testimony (February 2014) on behalf of the Sierra Club in connection with the Luminant Big Brown Case. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Civil Action No. 6:12-cv-00108-WSS (Western District of Texas, Waco Division).
- (nnnn) Deposition (June 2014) and Trial (August 2014) on behalf of ECM Biofilms in the matter of the US Federal Trade Commission (FTC) v. ECM Biofilms (FTC Docket #9358).

EXHIBIT B



Maryland
Department of
the Environment

Larry Hogan
Governor

Boyd Rutherford
Lieutenant Governor

Ben Grumbles
Secretary

MAR 22 2016

Ms. Lisa Hollowell
Environmental Integrity Project
509 Vine Street
Apt. 2A
Philadelphia, PA 19106

Dear Concerned Citizen:

Thank you for your participation in the Part 70 Operating permit application process for NRG Energy Chalk Point, LLC located in Aquasco, MD.

Enclosed please find the Department's Response to Comments document which addresses the comments and concerns submitted during the comment period.

Citizens have the opportunity to petition EPA regarding this permit within 60 days after the end of the EPA forty-five day review period. The petition period dates can be found on the EPA Region III website at <http://www.epa.gov/caa-permitting/title-v-operating-permit-public-petition-deadlines>.

Please feel free to contact me at 410-537-4433 or shannon.heafey@mda.gov with any questions.

Sincerely,

A handwritten signature in black ink that reads "Shannon L. Heafey".

Shannon L. Heafey, Title V Coordinator
Air Quality Permits Program
Air and Radiation Management Administration

SLH/jm

Enclosure

CC: Mr. Patton Dycus, Environmental Integrity Project
1000 Vermont Avenue NW, Suite 1100
Washington, DC 20005 (w/enc)

Mr. Dave Talley, EPA Region III (w/encl)
Ms. Megan Bradley, EPA Region III

**MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION MANAGEMENT ADMINISTRATION**

**NRG Energy, Inc. Chalk Point Generating Station
Draft Renewal Part 70 Operating Permit 24-033-0014
Response to Comments**

Environmental Integrity Project (EIP) Comments (01/04/16)

- 1. The Draft Permit Exempts Periods of Startup and Shutdown from Compliance with Limits for Opacity and PM and the Requirement that Title V Permits Contain Monitoring and Reporting to Assure Compliance with Applicable Requirements.**

MDE Response:

MDE has revised the permit in the same manner as the Dickerson Title V/Part 70 Permit to clarify that the SIP opacity and PM standards do not exclude periods of startup and shutdown except for the limited exception under COMAR 26.11.09.A(3). The references to the 2008 Consent Order have been moved from the federal section of the permit to the state-only enforceable section in order to remove confusion with the applicable SIP standards for opacity and PM.

The applicable SIP Opacity standard for Chalk Point Units 1 and 2 is as follows:

COMAR 26.11.09.05A(2) – Fuel Burning Equipment
"Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity."

COMAR 26.11.09.05A(3) - Exceptions. "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
(a) The visible emissions are not greater than 40 percent opacity; and
(b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period."

The applicable PM standard for Chalk Point Units 1 and 2 is as follows:

COMAR 26.11.09.06B(3) – Solid Fuel Burning Equipment. "A person may not cause or permit particulate matter caused by the combustion of solid fuel to be discharged into the atmosphere in excess of the amounts shown in Table 1." For these units, the maximum allowable emissions of particulate matter 0.03 gr/scfd @ 50% excess air."

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COMAR 26.11.09.06C. Determination of Compliance "Compliance with the particulate matter emissions standards in this regulation shall be calculated as the average of 3 test runs using EPA Test Method 5 or other United States Environmental Protection Agency test method approved by the Department."

There are two emission points to which the opacity and PM standards apply, the FGD scrubber stack and the common bypass stack. The scrubber stack is the primary emissions point. For the limited times when the scrubber is off line, the exhaust gases emit from the common bypass stack. The permit was revised to clarify the periodic monitoring for opacity and PM from scrubber stack and the bypass stack.

For the scrubber stack, compliance with the opacity standard will be demonstrated by compliance with the PM standard by use of a continuous particulate emissions monitoring system (PEMS). PEMS data is collected at all times including start ups and shutdowns. The use of a continuous opacity monitoring system (COMS) is precluded because of moisture from the wet scrubber in the exhaust gases. The PEMS data is also used to demonstrate continuous compliance with the PM standard. Hourly data is required to be collected, maintained, and reported in a quarterly monitoring report. In addition to the PEMS, the Permittee is required to conduct an annual stack test.

For the bypass stack, compliance with the opacity standard will be demonstrated with data collected from a COMS. Data is required to be collected, maintained, and reported in a quarterly monitoring report. Compliance with the PM standard will be demonstrated by compliance with a compliance assurance monitoring (CAM) plan. The CAM plan was developed by correlating opacity to PM emission rates.

The permit has been revised to remove any language to imply there is an exemption to the SIP opacity and PM standards during start up or shut down except for the limited exemption for opacity as found in COMAR 26.11.09.05(A)(3). The monitoring, record keeping and reporting requirements of the 2008 Consent Order are confined to the State-only enforceable section of the permit.

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- 2. By Requiring Monitoring and Reporting of PM Data in 24-Hour Blocks, the Draft Permit Weakens the SIP PM Limit**

MDE Response:

As discussed in the response to the first issue, MDE has revised the permit and fact sheet to more clearly identify and explain the rationale for the monitoring requirements to demonstrate compliance with the SIP PM limits. The references to the 2008 Consent Decree with the 24-Hour Block averages as it relates to the SIP limit have been removed.

The permit requires PEMS hourly data in units of gr/scfd to be reported in quarterly monitoring reports. The hourly readings provide MDE the ability to assess compliance with the SIP PM limit. Since installation of the FGD scrubbers and installation of PM CEMS in 2010, the hourly readings have been between 0.002 and 0.003 gr/scfd, an order of magnitude less than the SIP limit of 0.03 gr/ scfd.

- 3. The Permit Effectively Removes the SIP Opacity Limit by Allowing PM CEMS to Replace COMS**

MDE Response:

MDE disagrees with the comment. As discussed in the response to the first issue, the permit was revised to clarify the applicable SIP opacity standard and the periodic monitoring to demonstrate compliance. For the FGD scrubber common stack, compliance with the SIP opacity standard will be assured by the data collected from the PEMS. The PEMS data will also be used to demonstrate compliance with the SIP PM standard.

The SIP opacity standard is a surrogate for the PM SIP standard. Before the advent of PEMS, opacity observations were conducted to determine compliance with the PM standard. Without the use of opacity observations, compliance with PM standards would be limited to stack tests. When Maryland's PM SIP standard was promulgated, the PM limit was correlated to an equivalent opacity reading in order to establish the SIP opacity standard. Compliance with the PM SIP standard as demonstrated with use of PEMS data assures compliance with the SIP opacity standard.

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- 4. The Permit's Provisions Related to the MATS Rule are Insufficient to Ensure Compliance with Applicable Emissions Limits**
- a. The Permit does not appear to indicate which MATS definition of "startup" the facility will employ.**
 - b. The Permit fails to include a compliance monitoring plan...MDE should require that this plan be developed for the Plant, and the Draft Permit should incorporate the plan.**

MDE Response:

- a. The Department disagrees that the start-up option to be selected by NRG must be in the permit. §63.10030 (e) states "When you are required to conduct an initial compliance demonstration as specified in §63.10011(a), you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of this section, as applicable." (e)(8) states "Identification of whether you plan to rely on paragraph (1) or (2) of the definition of "startup" in §63.10042." The initial compliance demonstration which includes the Notification of Compliance was not due until October 12, 2015. This is why the selection of the startup option was not in the draft permit. However, NRG has now submitted the Notification of Compliance and has selected Option 1. The Permit has been revised to identify the start-up option selected by NRG.**
- b. The Department disagrees that the site-specific monitoring plan must be in the permit. The Department's policy is not to include monitoring plans in Title V Permits. They are incorporated by reference. The plans are available to the public upon request. NRG submitted the "Monitoring Plan for Filterable Particulate Matter, Mercury, and Sulfur Dioxide Continuous Emissions Monitoring Systems Related to the Mercury Air Toxics Standards" October 2014.**

Appendix B

**Maryland Department of the Environment
Air and Radiation Management Administration**

**Raven Power
Fort Smallwood Complex Draft Part 70 Operating Permit
Response to Comments**

Environmental Integrity Project (EIP) et al Comments (6/17/2016)

- 1. The Draft Permit Does Not Require Monitoring Sufficient to Assure Compliance with Emission Limits for Wagner Units 1, 2, 3, and 4.**
 - A. Monitoring requirements are insufficient to assure Compliance with PM limits for Wagner Units 1,2,3, and 4**

Annual stack testing required cannot assure compliance with a limit that must be met at all times and the compliance assurance monitoring (“CAM”) plans for each unit exclude monitoring during SSM events.

The CAM plan provisions for opacity are further insufficient because the indicator range established for opacity is described as “[a]n internal, non-enforceable trigger level... If the trigger level is not enforceable, it is entirely unclear how it can ensure compliance with the associated PM limit.” The corrective actions to be taken are not specified in the CAM Plan.

MDE Response:

The Department disagrees with the commenter’s assertion that the monitoring requirements in the permit are insufficient to assure compliance.

As the commenter notes, annual stack testing is not the only method by which compliance with PM limits is determined. In addition to annual stack testing, the permit also requires a CAM Plan. CAM plans must provide the Department a reasonable level of assurance that control devices which are required to achieve compliance operate in a manner as when compliance stack tests were performed. Raven Power selected the use of COM data as the primary indicator and selected a trigger level to initiate corrective actions which correlates to PM emissions at 90 percent of the PM standard. The second indicator for the ESPs is to monitor an ESP Power Management alarm. The alarm is set to activate when the power deviates from the levels which were recorded during the compliance stack test.

The Department agrees that the language in the CAM plan implies that the opacity monitor is not required to collect data during periods of startups, shutdowns, and malfunctions (SSM), but this is erroneous. Under COMAR 26.11.01.10B(1)(a), an owner or operator subject to COMAR 26.11.01.10 must “continuously operate” continuous opacity monitors (COMs). Wagner Units 1, 2, 3, and 4 all are subject to COMAR 26.11.01.10. The CAM plan has been revised

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to remove the language for exempting SSM. In the quarterly summary COM report as required by COMAR 26.11.01.10D(2)(C), Raven Power reports the reasons for all 6 minute excess opacity readings including periods of startups, shutdowns, and malfunctions.

The Department disagrees with the commenter's assessment that "trigger levels" are enforceable in a like manner as the associated particulate matter PM standard. "Trigger levels" are set at a level prior to violation of the associated PM standard. In development of the CAM plan, opacity measurements were correlated to 90 percent of the PM standard. This allows Raven to take corrective actions prior to the potential violation of the PM standard.

The Department also disagrees with the commenter that corrective actions must be specified in the CAM Plan. Raven Power maintenance plans for the electrostatic static precipitators (ESP) contain a list of trouble shooting actions which include recommendations by the ESP manufacturers as well as customized actions which are based on historical site specific maintenance records. Raven Power, with its historical perspective on corrective actions and maintenance on the ESPs, is best able to determine the appropriate actions to take. The Department believes that the CAM plan is sufficient to require corrective actions to be taken without specifying the complete list of possible actions in the CAM plan.

In addition, Raven Power must report the cause, time periods, and the opacity of all emissions which exceed the applicable standards in the quarterly COM summary report as required by COMAR 26.11.01.10D(2). This information provides the Department additional data in order to assess sufficiency of the CAM plan and compliance with the PM standard.

B. Monitoring requirements are insufficient to assure compliance with opacity limits for Wagner Units 1, 2,3, and 4 if opacity is not measured during SSM Events

MDE Response:

As discussed previously, the Department does not allow Raven Power to exclude periods of SSM when determining compliance with the applicable opacity standard. The CAM plan has been revised to eliminate the impression that there is an exemption for SSM.

**Maryland Department of the Environment
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**Raven Power
Fort Smallwood Complex Draft Part 70 Operating Permit
Response to Comments**

- 2. The Draft Permit Does Not Include Monitoring Requirements that Assure Compliance with Synthetic Minor PM and PM10 Limits for Brandon Shores**
 - A. The federally enforceable conditions in the draft permit cannot assure compliance with the Synthetic Minor PM and PM10 limits for Brandon Shores Units 1 and 2**

First, the permit states that compliance may be determined based on a single, annual three-hour stack test. The permit does not expressly require that the stack test measure condensable fractions.

MDE Response:

In addition to the annual stack test, the permit requires Raven Power to operate a continuous particulate emissions monitor (PM CEMS) in order to demonstrate compliance with the State Implementation Plan (SIP) PM limit as well as the federal New Source Performance Standard PM limit, and the Mercury and Air Toxics Standards ("MATS rule") PM emission limit. The PM CEMS data will also be used to assess compliance with the CPCN synthetic minor PM limit.

The permit requires Raven Power to conduct the annual stack tests using EPA Reference Methods of 40 CFR Part 60, Appendix A and requires Raven Power to submit a test protocol to the Department for approval. There is more than one possible test method in Appendix A that may be used to determine PM and PM condensables. The permit allows the flexibility for Raven Power to select the test method and have it approved by the Department prior to testing.

Second, the permit's federally enforceable requirements seem to only require annual stack testing to measure compliance with the synthetic minor PM limit, which is supposed to set an annual cap on emissions.

MDE Response:

As mentioned previously, in addition to the annual stack, the permit requires Raven Power to operate a continuous particulate emissions monitor (PM CEMS). The PM CEMS data will be used to assess compliance with the CPCN limit.

In order to add clarity for the use of PM CEMS, the permit has been revised to include language which requires the PM CEMS data to be used to demonstrate compliance with CPCN PM limits.

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Response to Comments**

Third, compliance with NSR (and therefore synthetic minor) limits cannot exclude emissions that may occur during startup, shutdown, or malfunctions.

MDE Response:

The permit requires Raven Power to operate a continuous particulate emissions monitor (PM CEMS) when the unit is in operation which includes periods of startup shutdown, and malfunction.

The federally enforceable portion of the permit must require Raven to monitor continuously to assure compliance with the synthetic minor limit for PM. Such monitoring must capture (or account for) both condensable and filterable PM.

MDE Response:

There is no continuous emissions monitor that specifically measures PM condensables. In order to make a continuous compliance determination for the filterable plus condensable PM synthetic minor CPCN limit, MDE uses data collected from the PM CEMS for the filterable portion and data collected from continuous emissions monitors for SO₂ and NO_x to assess compliance for the condensable portion. SO₂ and NO_x emissions are the principal components of the condensables PM.

The Brandon Shores Units' emission control systems for PM, SO₂, and NO_x are sized provide for overcontrol of the pollutants. The results of the stack tests and CEM data collected have shown continuous compliance with all the emissions limits. The margin of compliance has been sufficient to provide a reasonable level of confidence that the condensable PM limits are in continuous compliance. The CPCN limits were established to set an annual cap on PM emissions. The CPCN synthetic minor PM limits are an annual average number. The emissions control systems have sufficient over control capacity that a short term excursion will not cause the annual cap on PM emissions to be exceeded.

The federally enforceable portion of the permit requires annual stack tests and the use of CEMS for PM, and SO₂ and NO_x. This data provides sufficient data to assess continuous compliance with the CPCN synthetic minor emission limits for filterable and condensable PM.

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Fort Smallwood Complex Draft Part 70 Operating Permit
Response to Comments**

- B. The State-only enforceable conditions in the draft permit cannot assure compliance with the synthetic minor PM and PM10 limits for Brandon Shores Units 1 and 2**

The permit should specify that PM CEMS should be used at any time the relevant unit's boiler is firing. In addition, the Draft Permit states that "PM CEMS shall be used to demonstrate compliance with the applicable PM limits" without identifying the specific PM limits to which they apply (they also cannot assure compliance with the SIP-based PM limit for Brandon Shores Units 1 and 2, as discussed in more detail in Section III below). Draft Permit at 213. Finally, neither the Draft Permit nor Fact Sheet explains how these monitoring requirements assure compliance with the synthetic minor limits, which require measuring, in one case, of condensable and filterable particles and in the other, of just filterable particles. Draft Permit at 38-39.

MDE Response:

The Department has revised the permit to clarify the monitoring requirements for the State PM SIP limit and the CPCN PM limits.

The standard term the Department uses for when a unit is in operation is "in operation". This has always meant "is firing". The phrase "including periods of SSM" is not used because it is assumed that "in operation" includes all operating times without exclusions. If periods of SSM are to be excluded, the phrase "in operation except for periods of SSM" is used.

PM CEMS will be required to demonstrate continuous compliance with the SIP PM limit and the CPCN filterable PM limit. As discussed in the response for a prior comment, the use of data from SO₂ and NO_x CEMS in conjunction with the PM CEMS will be used to assess continuous compliance with the CPCN filterable plus condensable PM limit.

- 3. The Draft Permit does not Include Monitoring Requirements Sufficient to Assure Compliance with the SIP-Based PM Limit for Brandon Shores Units 1 and 2.**
- A. Annual stack testing is insufficient. The Draft Permit must be revised to unambiguously require demonstration of compliance with this PM limit using PM CEMS.**

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MDE Response:

The Department disagrees with this comment. The permit does require the use of PM CEMS. The permit condition was extracted from a 2007 Consent Agreement. This condition has been revised to clarify the compliance demonstration for the SIP PM standard.

B. PM CEMS monitoring may not be conducted for the SIP-based PM limit using 24-hour measuring and reporting averages

In addition, once PM CEMS is unambiguously required, the Draft Permit must also be revised in order to require monitoring sufficient to assure compliance with the PM limit, which has an averaging period of three, at most, six-hours..

MDE Response:

The monitoring permit condition has been revised to require 6 hour rolling averages which will allow the Department to assess compliance with the SIP PM limit. Compliance with the PM SIP limit is determined by the average of three Method 5 test runs. For Brandon Shores in order to collect sufficient sample for a valid test run, each test run is conducted for two hours. For the PM CEMS the averaging time will be six hours.

C. MDE must revised the draft permit to clarify that PM CEMS is being operated at all times, including during SSM events

If the referenced Consent Decree has been superceded by a separate agreement, then it no longer provides a basis for this (clearly inadequate) monitoring requirement. MDE must clarify whether this is the case.

MDE Response:

The Permit requires the operation of a PM CEMS whenever a unit is in operation. There is no exemption language for periods of SSM.

The regulatory basis for the requirement for use of the PM CEMS is COMAR 26.11.03.06C which is the regulation that requires a Part 70 permit to have sufficient monitoring for demonstrating continuous compliance with all emission standards and limits. There were two references that had typographical errors. The correct references are COMAR 26.11.03.06C not 26.11.06.03C. The permit has been corrected.

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D. The state-only enforceable conditions are inadequate

MDE Response:

The Department notes that the commenter is not asserting that the State-only conditions referenced in the comment are misidentified as State-only requirements. Per EPA guidance, a Title V permit must include every "federally enforceable" requirement that applies to the permitted facility. If a state Permitting Authority is responsible for issuing permits, the Permitting Authority has the option of including state requirements that are not federally enforceable ("state-only" requirements). EPA further notes that State-only requirements are not enforceable by either EPA or the public.

4. The Draft Permit Fails to Assure Compliance with the Opacity Limit Applicable to Brandon Shores Units 1 and 2.

If the plant truly cannot use COMS because of a FGD device, MDE should establish a PM limit that correlates to the SIP opacity limit and require the use of continuous monitoring using PM CEMS to assure compliance with the opacity limit. In doing so, MDE must account for the fact that opacity can indicate the presence of sulfuric acid or condensable particles, which are not measured by PM CEMS.

MDE Response:

MDE disagrees with the comment. It is an accepted fact that stacks which have moisture in the stack gases cannot use a COMS to measure opacity. This is the case for the stacks for Brandon Shores Units 1 and 2.

The opacity standard in COMAR is a surrogate for the PM standard. Prior to the development of continuous particulate emission monitors, the only means of determining compliance with the PM standard was a stack test. In order to assess compliance with a PM standard on a continuous basis, a limit for opacity was established which correlates to the PM standard.

Now that PM CEMS have been demonstrated to measure accurately PM emissions, an opacity limit is no longer necessary. Brandon Shores Units 1 and 2 are subject to the New Source Performance Standards found in 40 CFR Part 60 subpart D. EPA revised subpart D to allow affected sources which operate a

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PM CEMS to request EPA to be allowed to comply with subpart Da's PM standard. Under subpart Da a unit is exempt from the opacity standard if the unit operates a PM CEMS. Raven Power did request and is now subject to the PM standard of subpart Da and is not required to demonstrate compliance with the opacity standard of subpart Da.

The Department has revised its regulations for visible emissions for boilers in like manner to allow sources that operate a FGD scrubber which causes water vapors in the stack gases not to use a COMS. As an alternate to using a COMS, a source must perform visible emissions observations in accordance with EPA Reference Method 9 on a schedule as prescribed in an alternate monitoring plan required by the regulation. The Department's revised regulations have not been approved by the EPA into Maryland's SIP. In the draft permit, the Department under its authority of COMAR 26.11.03.06C to provide sufficient monitoring to demonstrate compliance with the opacity standard proposes to require Raven to comply with the following monitoring requirement: The Permittee shall perform a visible emissions observation using an EPA Reference Method 9 of the exhaust from the scrubber stack. The observation shall be performed once a week for one hour period of time. If after a six month period time, no violations of the opacity limit are observed, the frequency of observation may be reduced to once per month. At any point in time that a violation of the opacity limit is observed, the observations shall return to the weekly schedule until another six month period elapses without a violation.

5. The Draft Permit Impermissibly Weakens the SIP-based PM Limit for Brandon Shores Units 1 and 2 by Expanding the Averaging Time from 3-6 Hours to 24 Hours

For Brandon Shores, Commenters also request that MDE explicitly require- in the federally enforceable sections of the permit- hourly or, at least. Rolling averages of three-to six-hour blocks, for monitoring and reporting of PM emissions in order to comply with the Act

MDE Response:

The Permit has been revised to require recording and reporting of six hour rolling average readings from the PM CEMS.

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6. The Draft Permit Fails to Ensure Compliance with the Sulfur-Content Limit for Wagner Units 1 and 4.

“MDE must revise the permit to include requirements for Raven to adequately monitor the sulfur content of its residual fuel oil and report the results to MDE”.

MDE Response:

The Department disagrees with the commenter that the permit does not have sufficient monitoring but does agree to revise the permit to clarify the monitoring requirement. Wagner Units 1 and 4 are affected units under the Acid Rain Program. As affected units, the units must comply with the Acid Rain Program continuous emissions monitoring requirement for SO_x. Raven Power complies with this requirement in accordance with the procedures of 40 CFR Part 75 Appendix D. These procedures include a required fuel sampling program. These procedures assure continuous compliance with the sulfur in fuel limits. The Permit has been revised to cross reference the fuel sampling requirements of Part 75 Appendix D.

7. The Draft Permit's Provisions Related to the MATS Rule are Insufficient to Ensure Compliance with Applicable Emission Limits

“The Draft Permit fails to ensure compliance with the requirements of the MATS rule in two ways. First, the Draft Permit does not appear to indicate which MATS definition of “startup” will be used by Raven for either the Brandon Shores or Wagner plants...Second, the Draft Permit fails to include a compliance monitoring plan, which is required by the MATS Rule.”

MDE Response:

In the Fact Sheet the options for “Startups” were identified in the Table beginning on Page 109. The permit has been revised to identify the start-up option selected for Brandon Shores Units 1 and 2 and H.A. Wagner Units 2 and 3. Option 1 was selected for all four units. Wagner Unit 1 is exempt from the MATS rule as a natural gas-fired Unit and Wagner Unit 4 is a limited use unit under the MATS rule and is not subject to the requirement to select an option.

The Department disagrees that the site-specific monitoring plan must be in the permit. The Department's policy is not to include monitoring plans in Title V Permits. They are incorporated by reference.

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Raven Power submitted the plans to EPA's Clean Air Markets Division's Emissions Collection and Monitoring Plan System (ECMPS) for Brandon Shores Unit 1 and 2 and H.A. Wagner Units 2 and 3.

8. MDE Must Require Raven to Clarify Whether it Elects to Choose Averaging Among Units for MATS Compliance

MDE Response:

Raven Power has followed the procedures in the MATS rule to apply for emissions averaging for Brandon Shores Units 1 and 2 and Wagner Units 2 and 3 by submitting averaging plans for approval.

From the fact sheet (page 105):

On December 15, 2014, the Permittee requested to use emissions averaging for **FSC-BS-Unit1 and FSC-BS-Unit2 and FSC-HAW-Unit2** to comply with the HCl and particulate matter (PM) emission limits in the MATS rule. On April 7, 2015, the Department approved the emissions averaging plan.

On August 27, 2015, the Permittee requested a modification to the MATS emissions averaging plan to include **FSC-HAW-Unit3** and an extension to the due date for the modified emissions averaging plan. The request was granted and a modified MATS averaging plan was received on March 25, 2016.

9. The Fact Sheet Fails to Establish a Basis for Wagner Unit 1's Purported Exemption from MATS under 40 CFR 63.9983(c)

MDE Response:

MDE will add to the Fact Sheet the following discussion for the exemption of Wagner Unit 1 for the exemption under 40 CFR 63.9983(b). Wagner Unit 1 meets the definition of a natural gas fired unit and is not an oil-fired unit.

“§63.9983 Are any fossil fuel-fired electric generating units not subject to this subpart?

The types of electric steam generating units listed in paragraphs (a) through (d) of this section are not subject to this subpart.”

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“(b) Any electric utility steam generating unit that is not a coal- or oil-fired EGU and that meets the definition of a natural gas-fired EGU in §63.10042.”

The definition for a natural gas-fired unit is as follows: “Natural gas-fired electric utility steam generating unit means an electric utility steam generating unit meeting the definition of “fossil fuel-fired” that is not a coal-fired, oil-fired, or IGCC electric utility steam generating unit and that burns natural gas for more than 10.0 percent of the average annual heat input during the 3 previous calendar years after the compliance date for your facility in §63.9984 or for more than 15.0 percent of the annual heat input during any one of those calendar years. EGU owners and operators must estimate coal, oil, and natural gas usage for the first 3 calendar years after the applicable compliance date and they are solely responsible for assuring compliance with this final rule or other applicable standard based on their fuel usage projections. Note: For Wagner Unit 1 the applicable compliance date is April 15, 2015. The percent of annual heat input was greater than 15% for each of the three calendar years previous to the compliance date.

Wagner unit 1 currently does not meet the definition of an oil-fired unit. The definition is as follows: “Oil-fired electric utility steam generating unit means an electric utility steam generating unit meeting the definition of “fossil fuel-fired” that is not a coal-fired electric utility steam generating unit and that burns oil for more than 10.0 percent of the average annual heat input during any 3 consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year.” Note: “fossil fuel-fired” means any EGU that fired fossil fuels for more than 10.0 percent of the average annual heat input during any 3 consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year after the applicable compliance date.” Note: The compliance date is April 15, 2015. For calendar year 2015 after April 15, no fuel oil was burned in Wagner Unit 1.

If in the future fuel oil usage causes the unit to meet the definition of a oil-fired unit, Unit 1 will become subject to the MATS rule as an oil-fired unit.

Appendix C

Leah Kelly

From: Karen Irons -MDE- <karen.irons@maryland.gov>
Sent: Thursday, November 10, 2016 12:13 PM
To: Leah Kelly
Cc: Shannon Heafey -MDE-; David Mummert -MDE-
Subject: Re: Fort Smallwood Title V/Part 70 Renewal (Permit No. 24-003-0468)
Attachments: EIPresponsetocomments.pdf

Leah

Attached is the Response to Comments that was sent to EPA Region III along with EIP comments (only comments we received) for EPA's 45-day review period

Also, my email address is:

karen.irons@maryland.gov (old address was kirons@mde.state.md.us)

Karen Irons, Manager
Air Quality Permits Program
Maryland Department of Environment
410-537-3256

On Thu, Nov 10, 2016 at 11:31 AM, Leah Kelly <lkelly@environmentalintegrity.org> wrote:

Hi Karen – I am writing to follow up on my request below regarding MDE’s response to the comments that we submitted on the renewal of the Fort Smallwood Title V/Part 70 permit. Could you please advise regarding the status of the response to comments?

Best,

Leah

From: Leah Kelly
Sent: Thursday, October 27, 2016 11:23 AM
To: Karen Irons (kirons@mde.state.md.us)
Cc: Shannon Heafey -MDE- (shannon.heafey@maryland.gov)
Subject: Fort Smallwood Title V/Part 70 Renewal (Permit No. 24-003-0468)

Hi Ms. Irons,

I am writing with respect to the Title V/Part 70 operating permit for the Fort Smallwood coal plant complex in Anne Arundel County consisting of the Brandon Shores and H.A. Wagner plants (Permit No. 24-003-0468). EIP submitted comments on the tentative determination to renew the permit on behalf of ourselves, Sierra Club, Chesapeake Climate Action Network, and Chesapeake Physicians for Social Responsibility. We were notified that EPA has received the final permit, but EIP has not yet received a response to our comments. I understand that the response to comments may be in the mail but wanted to check regarding this. Could you please let me know the status of MDE's response to comments on this permit renewal? Thank you.

Best,

Leah Kelly

Attorney

Environmental Integrity Project

1000 Vermont Avenue NW, Suite 1100

Washington, DC 20005

(202) 263-4448 Office

(202) 296-8822 Fax

lkelly@environmentalintegrity.org

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Appendix D

Leah Kelly

From: Shannon Heafey -MDE- <shannon.heafey@maryland.gov>
Sent: Monday, December 19, 2016 2:03 PM
To: Leah Kelly
Cc: Karen Irons -MDE-; David Mummert; Marcie Gurley
Subject: Raven Power Fort Smallwood Title V permit conditions
Attachments: AcidrainpermitBrandonShores2015.pdf; AcidrainpermitWagner2015.pdf; Brandon Shores CO2 Budget Trading Permit 2015.pdf; FT Smallwood Part70 permit 2016.pdf; H.A. Wagner CO2 Budget Trading Permit 2015.pdf

Hi Leah,

I am sending the Title V Permit in two emails because of the sizes of the files. Attached here is the Title V permit, Co2 Budget permits for Brandon Shores and HA Wagner, the Acid Rain permits for Brandon Shores and HA Wagner.

The following email will have the Fact Sheet, Response to Comments, and the signed and dated AMA-1 cover page.

Shannon

--

Shannon L. Heafey
Air Quality Permits Program
Air and Radiation Management Administration
410-537-4433

[Click here](#) to complete a three question customer experience survey.

EXHIBIT B

Notice of Intent to Sue for Failure to Timely Grant or Deny a Petition to Object to Title V Operating Permit No. 24-003-0468, Issued to Raven Power Fort Smallwood, LLC for the Fort Smallwood Complex, consisting of the Brandon Shores and Wagner Generating Stations, in Anne Arundel County, Maryland (attachments omitted)



1000 Vermont Avenue, NW
Suite 1100
Washington, DC 20005
main: 202-296-8800
fax: 202-296-8822
www.environmentalintegrity.org

April 17, 2017

Via Certified Mail, Return Receipt Requested

Administrator Scott Pruitt
U.S. Environmental Protection Agency
Ariel Rios Building, Mail Code 1101A
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Notice of Intent to Sue for Failure to Timely Grant or Deny a Petition to Object to the Title V Operating Permit for the Fort Smallwood Complex

Dear Administrator Pruitt:

With this letter, Chesapeake Climate Action Network, Sierra Club, Environmental Integrity Project and Physicians for Social Responsibility, Chesapeake, Inc. are giving you notice of our intent to sue you in your official capacity as Administrator of the U.S. Environmental Protection Agency for failure to timely respond to our petition to object to the proposed Title V Operating Permit Number 24-003-0468 (“Proposed Permit” or “Permit”) issued by the Maryland Department of the Environment to Raven Fort Smallwood, LLC for the Fort Smallwood complex (“Fort Smallwood”). Fort Smallwood consists of two separate electric generating stations, the Brandon Shores plant and the Wagner plant, and is located in Anne Arundel County, Maryland.

Our Title V petition, which is included with this notice letter (minus the petition’s attachments), was timely filed on February 3, 2017 — within 60 days following the end of EPA’s 45-day review period for the Proposed Permit. EPA failed to respond to the petition within 60 days, in violation of 42 U.S.C. § 7661d(b)(2). Please respond to our petition, as required by law, or we will be forced to file suit after 60 days to compel your response.

Authority to Bring Suit

Clean Air Act § 304(a)(2) authorizes citizen suits “against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionary with the Administrator.” 42 U.S.C. § 7604(a)(2). The Administrator has a nondiscretionary duty to grant or deny a petition filed by citizens to object to the issuance of a federal operating permit on the basis that it contains provisions not in compliance with the Clean Air Act. *Id.* § 7661d(b)(2). In the event that the Administrator fails to perform this

nondiscretionary duty, citizens may bring suit to compel such action. The district courts have jurisdiction over these suits. *Id.* § 7604(a).

Relief Requested

In our lawsuit, we will seek the following relief:

- An order compelling you to grant or deny the petition within 60 days or less from the date of the order;
- Attorney's fees and other litigation costs; and
- Other appropriate relief as allowed.

If you have any questions regarding this notice letter, believe any of the foregoing information to be in error or would like to discuss a settlement of this matter prior to the initiation of litigation, please contact me at the number or email address listed below.

Sincerely,



Patton Dycus
Environmental Integrity Project
1000 Vermont Avenue NW, Suite 1100
Washington, DC 20005
(202) 263-4455
(404) 446-6661 (cell)
pdycus@environmentalintegrity.org

Attachment

cc: *(Via U.S. Mail)*

Jeff Sessions, Attorney General
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530-0001

Cecil A. Rodrigues, Acting Regional Administrator
U.S. Environmental Protection Agency, Region 3
1650 Arch Street
Mail Code: 3RA00
Philadelphia, PA 19103-2029

Karen Irons, Manager
Air Quality Permits Program
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY												
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p style="text-align: center;">Mail Management</p> <p>B. Received by (Printed Name) C. Date of Delivery</p>												
<p>1. Article Addressed to:</p> <p>Administrator Scott Pruitt US EPA - Anef Rios Bldg. Mail code 1101A 1200 Pennsylvania Ave NW Washington, DC 20460</p>  <p>9590 9402 1291 5285 3724 65</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p> <p style="text-align: center; font-size: 24px;">APR 21 2017</p>												
<p>2. Article Number (Transfer from service label)</p> <p style="font-size: 24px;">7017 0530 0000 8669 8417</p>	<p>3. Service Type</p> <table border="0"> <tr> <td><input type="checkbox"/> Adult Signature</td> <td><input type="checkbox"/> Priority Mail Express®</td> </tr> <tr> <td><input type="checkbox"/> Adult Signature Restricted Delivery</td> <td><input type="checkbox"/> Registered Mail™</td> </tr> <tr> <td><input type="checkbox"/> Certified Mail®</td> <td><input type="checkbox"/> Registered Mail Restricted Delivery</td> </tr> <tr> <td><input type="checkbox"/> Certified Mail Restricted Delivery</td> <td><input type="checkbox"/> Return Receipt for Merchandise</td> </tr> <tr> <td><input type="checkbox"/> Collect on Delivery</td> <td><input type="checkbox"/> Signature Confirmation™</td> </tr> <tr> <td><input type="checkbox"/> Collect on Delivery Restricted Delivery</td> <td><input type="checkbox"/> Signature Confirmation Restricted Delivery</td> </tr> </table> <p style="font-size: 8px;">Mail Restricted Delivery (0)</p>	<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®	<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™	<input type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery	<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise	<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation™	<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®												
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™												
<input type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery												
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise												
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation™												
<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery												
<p>PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt</p>													

<input type="radio"/> G. Habeas Corpus/ 2255 530 Habeas Corpus – General 510 Motion/Vacate Sentence 463 Habeas Corpus – Alien Detainee	<input type="radio"/> H. Employment Discrimination 442 Civil Rights – Employment (criteria: race, gender/sex, national origin, discrimination, disability, age, religion, retaliation) *(If pro se, select this deck)*	<input type="radio"/> I. FOIA/Privacy Act 895 Freedom of Information Act 890 Other Statutory Actions (if Privacy Act) *(If pro se, select this deck)*	<input type="radio"/> J. Student Loan 152 Recovery of Defaulted Student Loan (excluding veterans)
<input type="radio"/> K. Labor/ERISA (non-employment) 710 Fair Labor Standards Act 720 Labor/Mgmt. Relations 740 Labor Railway Act 751 Family and Medical Leave Act 790 Other Labor Litigation 791 Empl. Ret. Inc. Security Act	<input type="radio"/> L. Other Civil Rights (non-employment) 441 Voting (if not Voting Rights Act) 443 Housing/Accommodations 440 Other Civil Rights 445 Americans w/Disabilities – Employment 446 Americans w/Disabilities – Other 448 Education	<input type="radio"/> M. Contract 110 Insurance 120 Marine 130 Miller Act 140 Negotiable Instrument 150 Recovery of Overpayment & Enforcement of Judgment 153 Recovery of Overpayment of Veteran’s Benefits 160 Stockholder’s Suits 190 Other Contracts 195 Contract Product Liability 196 Franchise	<input type="radio"/> N. Three-Judge Court 441 Civil Rights – Voting (if Voting Rights Act)

V. ORIGIN
 1 Original Proceeding
 2 Removed from State Court
 3 Remanded from Appellate Court
 4 Reinstated or Reopened
 5 Transferred from another district (specify)
 6 Multi-district Litigation
 7 Appeal to District Judge from Mag. Judge
 8 Multi-district Litigation – Direct File

VI. CAUSE OF ACTION (CITE THE U.S. CIVIL STATUTE UNDER WHICH YOU ARE FILING AND WRITE A BRIEF STATEMENT OF CAUSE.)

VII. REQUESTED IN COMPLAINT	CHECK IF THIS IS A CLASS ACTION UNDER F.R.C.P. 23 <input type="checkbox"/>	DEMAND \$ _____	JURY DEMAND: YES <input type="checkbox"/> NO <input type="checkbox"/>
VIII. RELATED CASE(S) IF ANY	(See instruction)	YES <input type="checkbox"/> NO <input type="checkbox"/>	If yes, please complete related case form

DATE: _____	SIGNATURE OF ATTORNEY OF RECORD _____
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INSTRUCTIONS FOR COMPLETING CIVIL COVER SHEET JS-44
 Authority for Civil Cover Sheet

The JS-44 civil cover sheet and the information contained herein neither replaces nor supplements the filings and services of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. Consequently, a civil cover sheet is submitted to the Clerk of Court for each civil complaint filed. Listed below are tips for completing the civil cover sheet. These tips coincide with the Roman Numerals on the cover sheet.

- I.** COUNTY OF RESIDENCE OF FIRST LISTED PLAINTIFF/DEFENDANT (b) County of residence: Use 11001 to indicate plaintiff if resident of Washington, DC, 88888 if plaintiff is resident of United States but not Washington, DC, and 99999 if plaintiff is outside the United States.
- III.** CITIZENSHIP OF PRINCIPAL PARTIES: This section is completed only if diversity of citizenship was selected as the Basis of Jurisdiction under Section II.
- IV.** CASE ASSIGNMENT AND NATURE OF SUIT: The assignment of a judge to your case will depend on the category you select that best represents the primary cause of action found in your complaint. You may select only one category. You must also select one corresponding nature of suit found under the category of the case.
- VI.** CAUSE OF ACTION: Cite the U.S. Civil Statute under which you are filing and write a brief statement of the primary cause.
- VIII.** RELATED CASE(S), IF ANY: If you indicated that there is a related case, you must complete a related case form, which may be obtained from the Clerk’s Office.

Because of the need for accurate and complete information, you should ensure the accuracy of the information provided prior to signing the form.

Civil Action No. _____

PROOF OF SERVICE

(This section should not be filed with the court unless required by Fed. R. Civ. P. 4 (l))

This summons for *(name of individual and title, if any)* _____
was received by me on *(date)* _____.

I personally served the summons on the individual at *(place)* _____
_____ on *(date)* _____; or

I left the summons at the individual's residence or usual place of abode with *(name)* _____
_____, a person of suitable age and discretion who resides there,
on *(date)* _____, and mailed a copy to the individual's last known address; or

I served the summons on *(name of individual)* _____, who is
designated by law to accept service of process on behalf of *(name of organization)* _____
_____ on *(date)* _____; or

I returned the summons unexecuted because _____; or

Other *(specify)*: _____.

My fees are \$ _____ for travel and \$ _____ for services, for a total of \$ _____.

I declare under penalty of perjury that this information is true.

Date: _____

Server's signature

Printed name and title

Server's address

Additional information regarding attempted service, etc:

Civil Action No. _____

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