UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

ENVIRONMENTAL INTEGRITY PROJECT 1000 Vermont Ave. N.W., Suite 1100 Washington, D.C. 20005, and CHESAPEAKE CLIMATE ACTION NETWORK 6930 Carroll Avenue, Suite 720 Takoma Park, MD 20912 PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC. 325 East 25th Street Baltimore, MD 21218 SIERRA CLUB 2101 Webster Street, Suite 1300, Oakland, CA 94612 Plaintiffs, v. GINA MCCARTHY, Administrator, U.S. Environmental Protection Agency, Ariel Rios Building, Mail Code 1101A 1200 Pennsylvania Ave, NW Washington, DC 20460 Defendant.	Case No. _____

COMPLAINT FOR INJUNCTIVE AND DECLATORY RELIEF

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, Physicians for Social Responsibility, Chesapeake, Inc. and Sierra Club (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. 24-017-0014 ("Proposed Permit" or "Permit"), issued by the Maryland Department of the Environment ("MDE") to NRG Energy, Inc. ("NRG") for operation of the Morgantown Generating Station ("Morgantown"), a power plant located at 12620 Crain Highway, Newburg, Maryland, 20664. See Exhibit A (Petition to Object to Proposed Permit). Plaintiffs also seek an order requiring the Administrator to perform her 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 her 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 June 3, 2016, 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 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.

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 her 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 her 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. Plaintiff SIERRA CLUB is the Nation's oldest grassroots environmental organization. Sierra Club is a membership organization with more than 13,000 members in Maryland. 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 Morgantown plant and would be adversely affected if the Proposed Permit for the plant did not comply with the Clean Air Act. Sierra Club petitioned the Administrator to object to the Permit because it fails to comply with applicable Clean Air Act requirements. The Administrator's failure to perform her non-discretionary duty to grant or deny this petition injures the organizational interests of Sierra Club as well as the concrete public health interests of its members.

14. 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 the Morgantown Generating Station. These members and employees—and the Plaintiff organizations themselves—will be adversely affected if EPA fails to object to this Permit.

15. Defendant GINA MCCARTHY 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

16. 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).

17. NRG's Morgantown Generating Station is a major source subject to Title V permitting requirements.

18. 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.

19. 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 she 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).

20. 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).

21. 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

22. NRG submitted a renewal application for the Permit on October 2, 2012.

23. Over the course of two years, from 2013 through 2015, MDE issued draft versions of the Permit for public comment. Except for Chesapeake PSR, all Plaintiffs submitted comments on various problems with these draft permits.

24. In or about September 2015, MDE issued the proposed renewal of the Title V Permit for Morgantown, the Proposed Permit.

25. As Plaintiffs later pointed out in their Petition, the Proposed Permit violates the Clean Air Act because it fails to contain the "opacity" limit applicable to Morgantown under Maryland's State Implementation Plan under the Clean Air Act. The Proposed Permit also violates EPA's Title V regulations because the federally-enforceable sections of the permit fail to include a limit for particulate matter (or soot) applicable to Morgantown through a consent decree. In addition, the proposed Permit does not contain monitoring and reporting sufficient to assure compliance

with another limit for particulate matter — as is required by the Clean Air Act and EPA's Title V regulations.

26. 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 January 4, 2016 —timely filed with EPA their Petition to object to the Permit. *See* 42. U.S.C. § 7661d(b)(2).

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

28. On June 3, 2016, Plaintiffs sent Defendant notice of their intent to sue the Administrator for her failure to grant or deny the Morgantown Petition within 60 days.

VI. CAUSE OF ACTION

FAILURE TO RESPOND TO PLAINTIFFS' MORGANTOWN PETITION

[42 U.S.C. § 7661d(b)(2)]

29. Plaintiffs re-allege and incorporate the allegations set forth in Paragraphs 1–28.

30. 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 1, 3 (D.D.C. 2002).

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

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

33. Defendant's failure to grant or deny the Petition constitutes a failure to perform an act or duty that is not discretionary, actionable under42 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' Morgantown 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 the Morgantown Petition within 30 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: August 12, 2016

ATTORNEY OF RECORD

/s/ Sparsh Khandeshi
Sparsh Khandeshi
D.C. Bar No. 1000899
Environmental Integrity Project
1000 Vermont Ave. N.W., Suite 1100
Washington, D.C. 20005
Phone: (202) 263-4446
skhandeshi@environmentalintegrity.org

Attorney for Plaintiffs

EXHIBIT A

Petition to Object to Title V Operating Permit No. 24-017-0014, Issued to NRG Energy, Inc. for the Morgantown Generating Station in Newburg, Maryland (Exhibits 1–9 attached separately as Exhibits A-1 through A-9)

BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF NRG ENERGY, INC. PROPOSED PERMIT NUMBER 24-017-0014 ISSUED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT	))))))))))))	PETITION TO OBJECT TO PERMIT

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 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 24-017-0014 ("Proposed Permit" or "Permit") issued by the Maryland Department of the Environment ("MDE") to NRG Energy, Inc. ("NRG") for the Morgantown Generating Station ("Morgantown"). Morgantown is a coal-fired power plant located at 12620 Crain Highway, Newburg, Maryland 20664.

I. INTRODUCTION

EPA must object to the Proposed Permit for three main reasons:

First, § 504 of the Clean Air Act and § 70.6 of EPA's Title V regulations require that Title V permits include enforceable emission limits and standards to assure compliance with all "applicable requirements" for a source, which include standards in the relevant State Implementation Plan ("SIP"). Section 70.6(b) of EPA's Title V regulations also provides that all

terms and conditions in a Title V permit are enforceable by EPA and citizens — except for terms and conditions that are not required under the Act and that a state permitting authority designates as not being federally enforceable. Here, in violation of these requirements, MDE replaced the 20% SIP opacity requirement — which applies to all "fuel-burning equipment" in the relevant area of Maryland — with a consent-decree particulate matter ("PM") limit of 0.10 lbs/mmBtu housed in the Permit's state-only section. Because that PM limit is in the Permit's state-only section, it is not enforceable by EPA or citizens. Thus — outside of the SIP revision process (which is the only acceptable way to weaken the opacity SIP limit applicable to Morgantown) — MDE has effectively removed the SIP opacity limit (or any equivalent) from the Permit and made it unenforceable in federal court.

Second, relatedly, if (as anticipated by the consent decree) Morgantown is to monitor using PM CEMS instead of opacity COMS, EPA's Title V regulations on compliance schedules require the 0.10 lbs/mmBtu consent-decree PM limit to be incorporated into the federally-enforceable sections of the Permit.

MDE made it impossible for Petitioners to raise these issues during the public comment period. The draft permits for Morgantown allowed NRG to comply with the 0.10 lbs/mmBtu consent-decree PM limit in lieu of the SIP opacity limit, but the 0.10 PM limit was listed as being federally enforceable. It was also clear that the 0.10 PM limit was roughly equivalent to the 20% SIP opacity limit. Thus, Petitioners did not object during the comment period to the replacement of the SIP opacity limit with a federally-enforceable 0.10 PM limit. In fact, Petitioners could not have objected to the replacement of the SIP opacity limit with a state-only 0.10 PM limit, as the draft permits did not list the 0.10 limit as being state-only.

Third, the Clean Act and EPA's Title V regulations require that Title V permits include monitoring and reporting sufficient to assure compliance with applicable limits. Here, the Maryland SIP imposes a 0.14 lbs/mmBtu PM limit on Morgantown, and that limit has an averaging period of three (or at most, six) hours. Yet the Proposed Permit only requires an annual stack test to show compliance with the SIP PM limit. A stack test that only occurs once a year cannot assure compliance with a PM limit that has an averaging period of three or six hours.

II. BACKGROUND

A. The Plant, Its Relevant Limits and the Proposed Permit

Morgantown's two primary boilers (Units 1 and 2) are each rated at 640 MW and began operations in the very early 1970s. Ex. 1, Proposed Permit, at 5. Units 1 and 2 are subject to a SIP opacity limit — found in COMAR § 26.11.09.05A — of 20% except for certain limited periods. Proposed Permit at 37-38. The only exception to the 20% limit is found in COMAR § 26.11.09.05A, which provides that the 20% limit does not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment provided that the opacity does not exceed 40% and such emissions do not occur for more than six consecutive minutes in any 60-minute period. COMAR § 26.11.09.05A(1), (3).

In the Proposed Permit, however, MDE has replaced this SIP opacity limit for Units 1 and 2 with a 0.10 lbs/mmBtu PM limit found in the Permit's state-only section and originally contained in a 2008 consent decree. That consent decree resolved a state-court lawsuit filed by MDE against NRG's predecessor over opacity and other particulate-related violations at the Morgantown plant and two other coal-fired power plants. Ex. 2, Consent Decree. The Permit says the following to replace the SIP opacity limit with a state-only limit for Units 1 and 2:

> The Permittee shall comply with the terms of the March 2008 Decree. Compliance with the March 2008 Consent Decree will be

> considered compliance for **COMAR 26.11.09.05A(1)**. See the details of the March 2008 Consent Decree *in State Only Section of the Permit*.

Proposed Permit at 38 (italics added).

The Proposed Permit's monitoring and record-keeping requirements confirm that MDE has replaced the opacity limit for Units 1 and 2 with a limit for PM. The Permit's federally-enforceable monitoring and record-keeping requirements *for opacity* refer to the *monitoring requirements for PM*. Proposed Permit at 45-46. The federally-enforceable monitoring requirements *for PM* only mention monitoring opacity with respect to the plant's bypass stack.[1] *Id.* at 46, 58-59. Even the opacity monitoring at the bypass stack will rarely take place, as NRG stated that it will almost never use the bypass stack going forward: the final fact sheet notes that a March 2015 letter from NRG stated that, "[w]ith the implementation of EPA's Mercury and Air Toxics Standards (MATS) rule in April, the option of operating units on the bypass stacks will be all but eliminated . . . ." Ex. 3, Fact Sheet, at 42.

Units 1 and 2 are also subject to a higher PM SIP limit of 0.14 lbs/mmBtu. COMAR 26.11.09.06A(1); Proposed Permit at 38.[2] This PM SIP limit 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 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

[1] When Morgantown's Flue Gas Desulfurization ("FGD") system is in use, Units 1 and 2 exhaust through the 400-foot main stack. Proposed Permit at 4. When the FGD system is not in use, the flue gas is exhausted through the 700-foot bypass stack. *Id.* Our review of the most recent Title V deviation reports for Morgantown reveal that Morgantown is just reporting opacity values for the bypass stack (when the bypass is actually used) and not the main stack.

[2] The Proposed Permit in our possession mistakenly identifies the limit as 1.4 lbs/mmBtu. If MDE has not corrected this mistake in the version of the Proposed Permit provided to EPA, EPA should object to the Permit on this grounds alone. *See* 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(1).

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.[3] *See* Ex. 4, Decl. of R. Sahu, at ¶¶ 3-4.

B. By Making Changes to the Permit After the Close of the Public Comment Period, MDE Made it Impossible for Petitioners to Raise Their Current Objections.

The Clean Air Act provides that a petition to EPA to object to a Title V permit "shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period)." 42 U.S.C. § 7661d(b)(2); *see also* 40 C.F.R. § 70.8(d) (providing the same).

Here, it was impracticable to raise Petitioners' current objections during the comment period, and the grounds for these objections arose after the comment period: the draft permits for Morgantown did not list the 0.10 lbs/mmBtu consent-decree PM limit as being a state-only limit, and the permits did not list the 0.14 lbs/mmBtu SIP PM limit at all. Instead, the two draft permits that MDE released for public comment[4] made the consent decree's 0.10 lbs/mmBtu PM

[3] It is also consistent with the duration of stack-test runs for other pollutants. *See* 40 C.F.R. pt. 60 app. A-4.

[4] MDE actually provided for three public comment periods, but there were only two draft versions of the Morgantown permit during these three comment periods. The first public comment period took place during the summer/late fall in 2013, and all Petitioners except for Physicians for Social Responsibility, Chesapeake, Inc. ("Chesapeake PSR") (which did not submit comments) submitted timely comments on MDE's first draft permit in September 2013. Ex. 5, attaching Sept. 2013 Comments. Because there were significant public comments on the draft permit and because a hearing was scheduled on the permit, the comment period was reopened for the same first version of the draft permit. Petitioners EIP and Chesapeake Climate Action Network submitted timely comments during this second comment period in December 2013. Ex. 6, attaching Dec. 2013 Comments. Then, in the summer of 2015, MDE opened a new comment period and issued a second, different version of the draft permit. With respect to the issues discussed in this petition, both versions of the draft permit were materially the same. All Petitioners other

limit federally enforceable, listing the PM limit applicable to Units 1 and 2 as follows in the federally-enforceable section of the draft permits:

> **COMAR 26.11.09.06A(1)** – Fuel-Burning Equipment Constructed Before January 17, 1972. "A person may not cause or permit particulate matter caused by the combustion of solid fuel or residual fuel oil in the fuel burning equipment erected before January 17, 1972, to be discharged into the atmosphere in excess of the amounts shown in Figure 1."
> ***PM limit is 0.100 pounds per million Btu of heat input by stack test and 0.100 pounds per million Btu of heat input 24-hour rolling average by PEM. (Condition 32 and 40, March 2008 Consent Decree)***
> . . .
>
> The Permittee shall comply with the terms of the March 2008 Consent Decree. See the details of the March 2008 Consent Decree in Table IV – 1b of the Permit under Emission Units F-1 and F-2.

Ex. 8, 2013 Draft Permit, at 37; Ex. 9, 2015 Draft Permit, at 38. As indicated in the quoted language above, the draft permits listed at least most of the relevant terms of the 2008 consent decree — including the 0.1 lbs/mmBtu PM limit —in Table IV –1b of the permits, which was housed in the federally-enforceable section of the permits. 2013 Draft Permit at 57-60; 2015 Draft Permit at 59-62. Also as indicated above, the draft permits provided for PM monitoring through PM CEMS.

The opacity section of the draft permits allowed NRG to substitute the consent decree's 0.10 lbs/mmBtu PM limit for the SIP opacity limit, but again for purposes of that substitution the 0.10 PM limit was listed as being federally enforceable:

> The Permittee shall comply with the terms of the March 2008 Consent Decree. Compliance with the March 2008 Consent Decree

---

than Chesapeake PSR (which did not submit comments) submitted timely comments on this second draft permit in July 2015. Ex. 7, attaching July 2015 Comments.

> will be considered compliance for **COMAR 26.11.09.05A(1)**. See the details of the March 2008 Consent Decree *in Table IV-1b*[5]

2013 Draft Permit at 36-37; 2015 Draft Permit at 37-38.

Based on testing performed in 2007 on Unit 2 at Morgantown, the consent decree's 0.10 lbs/mmBtu PM limit was roughly the equivalent of the 20% SIP opacity limit: at 20% opacity, the PM emissions were predicted to be around 0.095 lbs/mmBtu, and at 18% opacity, the PM emissions were approximately 0.085 lbs/mmBtu. *See* Permit Fact Sheet at 36.

Because the 0.10 lbs/mmBtu PM limit was roughly equivalent to the 20% SIP opacity limit, and because the 0.10 limit was federally enforceable, Petitioners did not object during the comment period to the replacement of the SIP opacity limit with the 0.10 PM limit. Nor did Petitioners object to the monitoring for the federally-enforceable PM limit listed in the draft permits because the permits required monitoring by PM CEMS.

Petitioners, however, did object to the draft permits' incorporation of a state law that is not part of the Maryland SIP and that limited the ability of EPA and citizens to enforce violations recorded by PM CEMS. Specifically, the draft permits — through their incorporation of the 2008 consent decree — stated that violations of the 0.10 PM limit demonstrated through CEMS data would be subject to Maryland Environmental Article § 2-611 (2013 Draft Permit at 59; 2015 Draft Permit at 61), which provides that a person will not be subject to enforcement action if that person submits a compliance plan that is approved by MDE.

In their comments, Petitioners objected that the incorporation of state law § 2-611 impermissibly limited the ability of EPA and citizens to enforce the federally-enforceable 0.10 PM limit and the opacity limit in the draft permits. Sept. 2013 Comments at 12-13; 2015

[5] The opacity section of the draft permits mentioned the state-only section of the permit — but only in reference to the requirements for the bypass stack: "*See State-only Section for additional Requirements for the By-Pass Stack."* 2013 Draft Permit at 37; 2015 Draft Permit at 38.

Comments at 5-7. Petitioners also objected that the reference to § 2-611 was contrary to EPA's regulations because it precluded the use, in an enforcement suit, of PM CEMS data as credible evidence of a violation of Morgantown's PM limits. 2015 Comments at 6 (citing to, among other things, 40 C.F.R. § 51.212(c)). In addition, Petitioners objected that the incorporation of § 2-611 impermissibly weakened the federally-enforceable PM and opacity limits and did not assure compliance with these limits. Sept. 2013 Comments at 12-13.

In direct response to Petitioners' objections regarding § 2-611 during the comment period, MDE — instead of simply removing the reference to § 2-611 or making clear that 2-611 was a state-only requirement — revised the Morgantown permit to *eliminate the 0.10 lbs/mmBtu limit as a federally-enforceable standard*, moving the 0.10 limit and the summary of the consent decree requirements (including the incorporation of §2-611) to the separate state-only section of the Proposed Permit. Proposed Permit at 37-38, 155-58. As discussed below in more detail, in doing so, MDE eliminated the SIP opacity limit applicable to Morgantown.

In response to Petitioners' comments, MDE also replaced 0.10 lbs/mmBtu as a federally-enforceable limit with the 0.14 lbs/mmBtu SIP PM limit, which previously appeared nowhere in the draft permits for Morgantown. Proposed Permit at 38. Instead of requiring monitoring by PM CEMS (as MDE had done in the draft permits for the previously federally-enforceable 0.10 limit), MDE only required that NRG conduct annual stack tests to assure compliance with the 0.14 PM SIP limit at Morgantown's main stack. *Id.* at 45-46. While the Proposed Permit includes what are presumably Compliance Assurance Monitoring ("CAM") requirements for the 0.10 lbs/mmBtu PM limit at Morgantown's bypass stack,[6] there are no CAM requirements for PM for the main stack. *Id.* at 46, 58-59.

[6] Instead of CAM, the Proposed Permit refers to the monitoring for the bypass stack as "Enhanced Monitoring." Proposed Permit at 46, 58-59. Also, it is unclear why MDE retained the consent decree's

By making these changes after the end of the comment period, MDE made it impossible for Petitioners to raise their objections at the heart of this petition.

C. Petitioners Would All Be Harmed if the Proposed Permit Did Not Meet the Requirements of the Clean Air Act.

Petitioner Chesapeake Climate Action Network ("CCAN") is a Maryland-based grassroots, non-profit organization 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 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 the Proposed Permit allowed more PM than legally permissible and thus adversely affected public health.

0.10 PM limit in the federally-enforceable Enhanced Monitoring provisions for the bypass stack but removed the 0.10 limit as a federally enforceable limit applicable to the main stack.

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 more than 13,000 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 Morgantown plant and would be adversely affected by unlawfully-elevated emissions of PM that are authorized by MDE's Proposed Permit.

Petitioner Environmental Integrity Project ("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 Morgantown plant. 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 all be harmed if EPA failed to object to the Proposed Permit. An objection by EPA is especially important here given that the issues in this petition deal with particulates, including fine particulates, for which there is no safe level of exposure.

III. SPECIFIC OBJECTIONS

"If any [Title V] permit contains provisions that are determined by the Administrator as not in compliance with the applicable requirements of this chapter . . . the Administrator *shall* . . .

object to its issuance." 42 U.S.C. § 7661d(b)(1) (emphasis added). EPA "does not have discretion whether to object to draft permits once noncompliance has been demonstrated." *See N.Y. Pub. Interest Group v. Whitman*, 321 F.3d 316, 334 (2d Cir. 2003) (holding that EPA is required to object to Title V permits once a petitioner has demonstrated that a permit does not comply with the Clean Air Act).

Here, EPA must object to the Proposed Permit for the reasons discussed below.

A. The Proposed Permit Wrongfully Removes the SIP Opacity Limit and Makes it Unenforceable by Citizens and EPA.

Section 504 of the Clean Air Act requires each Title V permit to include "enforceable emission limitations and standards . . . and such other conditions as are necessary to assure compliance with applicable requirements of this chapter, including the requirements of the applicable implementation plan." 42 U.S.C. § 7661c(a). Similarly, 40 C.F.R. § 70.6(a)(1) provides that each Title V permit "shall include" "[e]mission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance." EPA's Title V regulations define "applicable requirement" to include, among other things, any standard or other requirement provided for in the applicable SIP. 40 C.F.R. § 70.2. Relatedly, § 70.6(b) of EPA's Title V regulations also provides that all terms and conditions in a Title V permit are enforceable by EPA and citizens — except for terms and conditions that are not required under the Act and that a state permitting authority specifically designates as not being federally enforceable. In keeping with these requirements, the Fourth Circuit has stated: "The [Title V] permit . . . contains, in a single, comprehensive set of documents, all CAA requirements relevant to the particular polluting source. In a sense, a permit is a source-specific bible for Clean Air Act compliance." *Virginia v. Browner*, 80 F.3d 869, 873 (4th Cir. 1996) (citations omitted).

Here, in violation of these requirements from the Act and the Title V regulations, MDE replaced the 20% SIP opacity requirement — which applies to all "fuel-burning equipment" in the relevant area of Maryland — with the consent-decree particulate matter PM limit of 0.10 lbs/mmBtu housed in the Permit's state-only section. As noted in the Proposed Permit, Units 1 and 2 at Morgantown are subject to the COMAR § 26.11.09.05 opacity limit, which provides that "[i]n Areas I, II, V, and VI, 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 greater than 20 percent opacity," subject to the very limited exceptions discussed above. COMAR § 26.11.09.05A(1); Proposed Permit at 37-38. That opacity limit is part of the Maryland SIP and is thus an applicable requirement under EPA's Title V regulations. *See* 40 C.F.R. § 52.1070(c) (listing § 26.11.09.05 as having been approved by EPA as part of Maryland's SIP).

Because the 0.10 lbs/mmBtu PM limit is in the Permit's state-only section, under 40 C.F.R. § 70.6(b), that limit is not enforceable by EPA or citizens. Thus MDE has effectively removed the SIP opacity limit from the Permit in violation of 42 U.S.C. § 7661c(a) and 40 C.F.R. § 70.6(a)(1). MDE's designation of the SIP opacity limit as a state-only requirement also violates 40 C.F.R. § 70.6(b)'s requirement that permitting authorities only designate as not being federally enforceable those terms "that are not required under the Act or under any of its applicable requirements."

MDE's change to the permit has real-world consequences. First, as discussed above, testing performed in 2007 on Unit 2 at Morgantown shows that the 0.10 lbs/mmBtu PM limit from the consent decree was roughly the equivalent of the 20% SIP opacity limit. *See* Permit Fact Sheet at 36. Now, the only federally-enforceable PM or opacity limit is the 0.14 lbs/mmBtu

SIP PM limit, which equates to a much higher opacity — 29% opacity.[7] Sahu Decl. at ¶¶ 5-6. Further, even if citizens or EPA could somehow still federally enforce the 0.10 consent decree PM limit, such enforcement would be severely hampered because the Proposed Permit still provides that violations of the 0.10 PM limit are subject to the compliance-plan provisions of state law § 2-611.

Under §§ 110(i) and 116 of the Clean Air Act and EPA's regulations, if MDE wished to weaken or remove the SIP opacity limit applicable to Morgantown, MDE was required to do so through the SIP revision process — which MDE did not do. 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 or have not taken place 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 similarly 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.

[7] Morgantown plans to monitor PM as a surrogate for non-mercury metals under the MATS Rule. The MATS Rule's 0.03 lbs/mmBtu PM limit is not an adequate surrogate for the SIP opacity limit: the MATS limit has a much longer averaging period (30 days, versus 6 minutes for the SIP opacity limit), and MATS excludes from compliance much longer periods during at least startup than the SIP opacity limit (up to four hours after the generation of electricity).

Here, because MDE did not go through the SIP revision process to amend the SIP opacity limit applicable to Morgantown Units 1 and 2 and because the Proposed Permit violates the Act and EPA's regulations in the other ways discussed above, EPA must object to MDE's change to that limit in the plant's Title V permit. If Morgantown is to continue to use PM CEMS in lieu of opacity COMS on the plant's main stack, the 0.10 lbs/mmBtu PM limit should be placed back into the federally-enforceable section of Permit to provide a sufficient proxy for the 20% SIP opacity limit — minus the availability of NRG to rely on state law § 2-611 or any other provisions of the 2008 consent decree that violate the Clean Air Act.[8]

B. If Morgantown Will Use PM CEMS Instead of COMS, EPA's Title V Regulations on Compliance Schedules Require the 0.10 Consent-Decree PM Limit to Be Incorporated Into the Federally-Enforceable Sections of the Permit.

The 2008 consent decree resolved violations of the SIP opacity limit at Morgantown. Consent Decree at p. 7. As part of resolving those violations, the consent decree subjected Morgantown to the 0.10 lbs/mmBtu PM limit in lieu of the 0.14 lbs/mmBtu SIP PM limit otherwise applicable to the plant. *Id.* at p. 2, ¶40. At the time of the consent decree, NRG's predecessor planned to install an FGD device at Morgantown by early 2010, and anticipated that the FGD device would reduce particulate emissions at the plant. *Id.* at pp. 2, 7. Because NRG's predecessor apparently believed that condensed water in the flue gas stream could impeded the accuracy of the opacity COMS during FGD operation, the consent decree anticipated that Morgantown might opt to monitor using PM CEMS instead of opacity COMS while the FGD

[8] For example, paragraph 38 of the consent decree provides that "in demonstrating compliance, particulate emissions during periods of startup and shutdown shall not be included." The Proposed Permit currently does not include this language. If MDE attempted to incorporate this language into the federally-enforceable portions of the Permit, that would violate §§ 110(i) and 116 of the Clean Air Act. Likewise, if MDE were to keep the SIP opacity limit but also attempt to incorporate the lax opacity requirements from COMAR § 26.11.09.05A(4) into the federally-enforceable sections of the Permit, this would also violate these sections of the Clean Air Act: § 26.11.09.05A(4) is not part of the SIP, as evidenced by the fact that it is currently in the state-only section of the Morgantown Permit. *See* Proposed Permit at 152-54.

device is running. *Id.* at ¶ 39. The 2008 consent decree also specifically contemplated that all continuing obligations under the decree (which would include the 0.10 PM limit) be incorporated into — and "made fully and finally enforceable through" — Morgantown's Title V permit. *Id.* at ¶ 66. Nothing in the consent decree limits that enforceability to enforcement by the State.

EPA's Title V regulations are in keeping with the consent decree on this last point. 40 C.F.R. § 70.6(c)(3) requires that Title V permits include a schedule of compliance consistent with § 70.5(c)(8). Section 70.5(c)(8), in turn, requires permit applications to include a "schedule of compliance for sources that are not in compliance with all applicable requirements at the time of permit issuance." 40 C.F.R. § 70.5(c)(8)(iii)(C). That section also specifically states that "[t]his compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent order to which the source is subject." *Id.*

Thus, because the 0.10 lbs/mmBtu PM limit was part of the consent decree's schedule for bringing Morgantown into compliance with the SIP opacity limit, EPA's Title V regulations specifically contemplated that — when Morgantown's Title V permit was issued and the Plant was in violation of the SIP opacity limit — the 0.10 PM limit be incorporated into the federally-enforceable provisions of the plant's Title V permit. This is especially true given that the consent decree contemplated that Morgantown could discontinue monitoring using opacity COMS after installation of the FGD device. Under these regulations on compliance schedules, MDE should not now be allowed to remove — from the federally-enforceable portions of the Permit — Morgantown's obligation to comply with both the underlying SIP opacity limit and the 0.10 PM limit that was part of the consent decree's plan to bring Morgantown into compliance with the opacity limit.

C. The Proposed Permit Does Not Assure Compliance with the PM SIP Limit of 0.14 lbs/mmBtu.

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 — much like here — 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 (EPA 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.

In addition to including permit terms sufficient to satisfy EPA's Title V monitoring requirements, permitting authorities must include a rationale for the monitoring requirements selected that is clear and documented in the permit record. Mettiki Order at 7-8 (citing 40 C.F.R. § 70.7(a)(5)).

Here, the Permit's provisions for the 0.14 lbs/mmBtu SIP PM limit fail to meet these requirements for the main stack for Units 1 and 2. As noted above, the PM SIP limit has an averaging period of three — and at most, six — hours. Despite this relatively short averaging period, the Proposed Permit only requires an annual stack test to show compliance with this limit at the main stack for Units 1 and 2. Proposed Permit at 45-49.

While the Permit's monitoring provision for PM mentions PM CEMS, this appears to only refer to monitoring for the PM limit (as a surrogate for non-mercury metals) under the Mercury and Air Toxics Standards, as the PM-limit section of the permit lists the 0.03 lbs/mmBtu MATS PM limit, and the monitoring provision states: "The Permittee shall comply with the particulate emission monitoring (PEM) requirements of 40 CFR Part 63, Subpart UUUU." Proposed Permit at 46. Morgantown's monitoring and reporting for MATS cannot assure compliance with the SIP PM limit because, as mentioned above, MATS has a much longer averaging period (30 days) and exempts sources from compliance with numerical limits during the first four hours after generation, which the SIP PM limit does not do. Further, while the Permit contains separate monitoring for the bypass stack, the bypass stack is only used at limited times, and NRG's March 2015 letter to MDE stated that the company will almost never use the bypass stack going forward.

A stack test that only occurs once a year cannot assure compliance at the main stack with a PM limit that has an averaging period of three or six hours. *Sierra Club*, 536 F.3d at 675. In addition, MDE has not provided any rationale that could explain how an annual stack test could assure compliance with a limit with such a short averaging period. Thus, EPA must object to the Proposed Permit. To ensure compliance with the SIP PM limit, the Permit's monitoring and

reporting provisions for the limit should require monitoring by PM CEMS and reporting in three or six-hour periods.

D. MDE's Response to Comments Does Not Address Petitioners' Arguments in this Petition.

Because MDE — after the close of the public comment period — changed the Permit to create the problems discussed in this petition, MDE's response to comments does not (and cannot) address Petitioners' arguments here. In its response to comments, MDE reasoned that moving the 0.10 lbs/mmBtu PM limit to the Permit's state-only section was appropriate because that consent-decree limit was never submitted to EPA for SIP approval and thus remains a state-only requirement. RTC at 2. MDE, however, provides no reasoning for its effective removal of the SIP opacity limit from the Permit, or for why removal of the consent-decree PM limit from the federal sections of the Permit does not violate EPA's regulations on compliance schedules. Nor does MDE provide any reasoning for its inadequate monitoring and reporting requirements for the 0.14 lbs/mmBtu SIP PM limit.

IV. CONCLUSION

For the reasons discussed above, EPA must object to the Proposed Permit. The Permit must include a federally-enforceable SIP opacity limit — or the 0.10 lbs/mmBtu PM limit from the consent decree should be placed back into the federally-enforceable section of the Permit (along with monitoring through PM CEMS) to provide a sufficient proxy for the SIP opacity limit. In addition, to ensure compliance with the 0.14 lbs/mmBtu SIP PM limit, the Permit's monitoring and reporting provisions for the SIP PM limit should require monitoring by PM CEMS and reporting in three or six-hour periods.

DATED: January 4, 2016.

Respectfully submitted,

_____

Patton Dycus
ENVIRONMENTAL INTEGRITY PROJECT
1000 Vermont Avenue NW, Suite 1100
Washington, DC 20005
(202) 263-4455
pdycus@environmentalintegrity.org

On Behalf of Chesapeake Climate Action Network, Sierra Club, Environmental Integrity Project and Physicians for Social Responsibility, Chesapeake, Inc.

CC via U.S. Mail and E-mail:

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

Dave Cramer
NRG Energy, Inc.
12620 Crain Highway
Newburg, MD 20664
David.Cramer@nrg.com

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION I SOURCE IDENTIFICATION

1. DESCRIPTION OF FACILITY

Morgantown Generating Station is engaged in the generation of electric energy. The primary SIC code for this plant is 4911. The major components of the facility consist of two (2) steam units primarily firing bituminous coal, four (4) auxiliary boilers firing on No. 2 fuel oil, six (6) combustion turbines firing on No. 2 fuel oil and their associated fuel storage and handling equipment. The gross winter capacity of the facility is 1580 MW.

Each of the two (2) boilers, manufactured by Combustion Engineering (CE), is rated at 640 MW. Each boiler is a tangentially coal fired supercritical unit with a superheater, single reheat and economizer. Units 1 and 2 are each equipped with Low NO_X burners (LNBs), Electrostatic Precipitators (ESP), Selective Catalytic Reduction (SCR), Over Fire Air (OFA) and Flue Gas Desulfurization (FGD) and exhausted through a 400 foot high stack. When the FGD systems are not in use, the flue gas is exhausted through a 700 foot high by-pass stack. The Units also have the capability of firing on No. 6 oil as an alternative primary fuel.

Three (3) auxiliary boilers are CE (Model #30 VP-12W) package boilers each rated at 164 MMBtu/hr and one (1) auxiliary boiler is a CE (Model 30VP2180R/48) rated at 219.3 MMBtu/hr. These auxiliary boilers fire No. 2 oil and are used for start-up steam and space heating.

Combustion Turbines CT-1 and CT-2 are General Electric (GE) Frame-5 rated at 20 MWs each and are fired on No. 2 fuel oil. These CTs are both used for blackstart and peaking purposes. Combustion Turbines CT-3, 4, 5 and 6 are GE Frame -7 each rated at 65 MW and fired on No. 2 fuel oil. These CTs are used for peaking purposes.

A coal barge unloader system, a gypsum barge loading system, a coal blending system and a fly-ash beneficiation facility (STAR) are also located at the station.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

2. FACILITY INVENTORY LIST

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
F1	3-0002	Unit 1: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and economizer. The Unit is equipped with a LNBs, SCR, FGD and ESP. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No.6 oil as an alternative primary fuel	June 1970
F2	3-0003	Unit 2: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and economizer. The Unit is equipped with a LNBs, SCR, FGD and ESP. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No. 6 oil as an alternative primary fuel	June 1971
F-CT 1	4-0068	General Electric Frame 5 combustion turbine rated at 20 MW and used for black start capability and peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	March 1970
F-CT 2	4-0069	General Electric Frame 5 combustion turbine rated at 20 MW and used for black start capability and peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1971

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
F-CT 3	4-0070	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-CT 4	4-0071	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-CT 5	4-0073	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-CT 6	4-0074	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-Aux 1	4-0015	Auxiliary boiler No. 1 manufactured by CE-Alstom (Model No.30 VP-12W) is used for start-up steam and space heat heating. Auxiliary boiler No. 1 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	1970
F-Aux 2	4-0191	Auxiliary boiler No. 2 manufactured by CE-Alstom (Model No.30VP21808R/48) is used for start-up steam and space heat heating. Auxiliary boiler No. 2 is fired with No. 2 fuel oil and has a maximum rating of 219.3 mmBtu/hr.	June 2004
F-Aux 3	4-0017	Auxiliary boiler No.3 manufactured by CE-Alstom (Model No.30 VP-12W) is used for start-up steam and space heat heating. Auxiliary boiler No. 3 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	1970
F-Aux 4	4-0018	Auxiliary boiler No. 4 manufactured by CE-Alstom (Model No.30 VP-12W) is used for start-up steam and space heat heating.	1970

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
		Auxiliary boiler No. 4 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	
Coal Barge Unloader	6-0138 (CPCN 9031)	The barge loading facility consists of a dock, barge unloader, a transfer and distribution system and a railcar loading facility. The barge unloader system is sized to unload up to 5.0 million tons of coal per year. The barge unloader's transfer and distribution system is integrated into Morgantown's existing coal handling system.	October 2007
Gypsum Barge Loading System	017-0014-6-0153 (CPCN 9148)	The Gypsum Barge Loading System is to convey and load gypsum produced by both the Chalk Point and Morgantown SO_2 FGD systems. The Gypsum Barge Loading System consists of the following subsystems: 1000-tph conveyor system; five transfer towers, one pier tripper conveyor, one telescoping barge load-out conveyor and rail unloading hopper and conveyor for chalk Point gypsum transfer.	October 2007
FGD System	(CPCN 9085)	A wet flue gas desulfurization (FGD) system is installed on both Units 1 and 2. The FGD system controls SO_2 and Hg. The FGD system uses limestone slurry with in-situ forced oxidation, producing gypsum by-product. The FGD system consists of the following sub-systems: limestone unloading and storage facilities; limestone slurry preparation and feed; SO_2 absorption tower; gypsum dewatering and loading facilities and two emergency diesel engines.	December 2009
Coal Blending System	017-0014-6-0154 (CPCN 9148)	The coal blending system is designed to blend various coals with different characteristics to match the specification of the Morgantown's boilers and air quality control equipment. The coal blending system consists of the following subsystems: new stack-out facilities in the	March 2010

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
		south coal yard; underground reclaim facilities in existing south and north coal yards; reclaim transfer point to integrate the reclaim from the north and south coal yards; refurbished and upgraded emergency reclaim; and enclosed transfer station with dust suppression system.	
STAR	6-0150 (CPCN 9229)	The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization scrubber system. Exhaust gases are directed through a 125 foot stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems.	December 2011

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION II GENERAL CONDITIONS

1. DEFINITIONS

[COMAR 26.11.01.01] and [COMAR 26.11.02.01]

The words or terms in this Part 70 permit shall have the meanings established under COMAR 26.11.01 and .02 unless otherwise stated in this permit.

2. ACRONYMS

APC	Air Pollution Control
ARMA	Air and Radiation Management Administration
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEM	Continuous Emissions Monitor
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMAR	Code of Maryland Regulations
EPA	United States Environmental Protection Agency
FGD	Flue Gas Desulfurization
FR	Federal Register
gr	grains
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
MDE	Maryland Department of the Environment
MVAC	Motor Vehicle Air Conditioner
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
OTR	Ozone Transport Region
PEM	Particulate Matter Emissions Monitor
PM	Particulate Matter
PM10	Particulate Matter with Nominal Aerodynamic Diameter of 10 micrometers or less
ppm	parts per million
ppb	parts per billion
PSD	Prevention of Significant Deterioration
PTC	Permit to construct

PTO	Permit to operate (State)
SIC	Standard Industrial Classification
SO_2	Sulfur Dioxide
STAR	Staged Turbulent Air Reactor
TAP	Toxic Air Pollutant
tpy	tons per year
VE	Visible Emissions
VOC	Volatile Organic Compounds
WCF	Waste Combustible Fluid

3. EFFECTIVE DATE

The effective date of the conditions in this Part 70 permit is the date of permit issuance, unless otherwise stated in the permit.

4. PERMIT EXPIRATION

[COMAR 26.11.03.13B(2)]

Upon expiration of this permit, the terms of the permit will automatically continue to remain in effect until a new Part 70 permit is issued for this facility provided that the Permittee has submitted a timely and complete application and has paid applicable fees under COMAR 26.11.02.16.

Otherwise, upon expiration of this permit the right of the Permittee to operate this facility is terminated.

5. PERMIT RENEWAL

[COMAR 26.11.03.02B(3)] and [COMAR 26.11.03.02E]

The Permittee shall submit to the Department a completed application for renewal of this Part 70 permit at least 12 months before the expiration of the permit. Upon submitting a completed application, the Permittee may continue to operate this facility pending final action by the Department on the renewal.

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall submit such supplementary facts or corrected information no later than 10 days after becoming aware that this occurred. The Permittee shall also

provide additional information as necessary to address any requirements that become applicable to the facility after the date a completed application was submitted, but prior to the release of a draft permit. This information shall be submitted to the Department no later than 20 days after a new requirement has been adopted.

6. CONFIDENTIAL INFORMATION

[COMAR 26.11.02.02G]

In accordance with the provisions of the State Government Article, Sec. 10-611 et seq., Annotated Code of Maryland, all information submitted in an application shall be considered part of the public record and available for inspection and copying, unless the Permittee claims that the information is confidential when it is submitted to the Department. At the time of the request for inspection or copying, the Department will make a determination with regard to the confidentiality of the information. The Permittee, when requesting confidentiality, shall identify the information in a manner specified by the Department and, when requested by the Department, promptly provide specific reasons supporting the claim of confidentiality. Information submitted to the Department without a request that the information be deemed confidential may be made available to the public. Subject to approval of the Department, the Permittee may provide a summary of confidential information that is suitable for public review. The content of this Part 70 permit is not subject to confidential treatment.

7. PERMIT ACTIONS

[COMAR 26.11.03.06E(3)] and [COMAR 26.11.03.20(A)]

This Part 70 permit may be revoked or reopened and revised for cause. The filing of an application by the Permittee for a permit revision or renewal; or a notification of termination, planned changes or anticipated noncompliance by the facility, does not stay a term or condition of this permit.

The Department shall reopen and revise, or revoke the Permittee's Part 70 permit under the following circumstances:

a. Additional requirements of the Clean Air Act become applicable to this facility and the remaining permit term is 3 years or more;

b. The Department or the EPA determines that this Part 70 permit contains a material mistake, or is based on false or inaccurate information supplied by or on behalf of the Permittee;

c. The Department or the EPA determines that this Part 70 permit must be revised or revoked to assure compliance with applicable requirements of the Clean Air Act; or

d. Additional requirements become applicable to an affected source under the Federal Acid Rain Program.

8. PERMIT AVAILABILITY

[COMAR 26.11.02.13G]

The Permittee shall maintain this Part 70 permit in the vicinity of the facility for which it was issued, unless it is not practical to do so, and make this permit immediately available to officials of the Department upon request.

9. REOPENING THE PART 70 PERMIT FOR CAUSE BY THE EPA

[COMAR 26.11.03.20B]

The EPA may terminate, modify, or revoke and reissue a permit for cause as prescribed in 40 CFR §70.7(g)

10. TRANSFER OF PERMIT

[COMAR 26.11.02.02E]

The Permittee shall not transfer this Part 70 permit except as provided in COMAR 26.11.03.15.

11. REVISION OF PART 70 PERMITS – GENERAL CONDITIONS

[COMAR 26.11.03.14] and [COMAR 26.11.03.06A(8)]

a. The Permittee shall submit an application to the Department to revise this Part 70 permit when required under COMAR 26.11.03.15 -.17.

b. When applying for a revision to a Part 70 permit, the Permittee shall comply with the requirements of COMAR 26.11.03.02 and .03 except that the application for a revision need include only information listed that is related to the proposed change to the source and revision to the permit. This information shall be sufficient to evaluate the proposed change and to determine whether it will comply with all applicable requirements of the Clean Air Act.

c. The Permittee may not change any provision of a compliance plan or schedule in a Part 70 permit as an administrative permit amendment or as a minor permit modification unless the change has been approved by the Department in writing.

d. A permit revision is not required for a change that is provided for in this permit relating to approved economic incentives, marketable permits, emissions trading, and other similar programs.

12. SIGNIFICANT PART 70 OPERATING PERMIT MODIFICATIONS

[COMAR 26.11.03.17]

The Permittee may apply to the Department to make a significant modification to its Part 70 Permit as provided in COMAR 26.11.03.17 and in accordance with the following conditions:

a. A significant modification is a revision to the federally enforceable provisions in the permit that does not qualify as an administrative permit amendment under COMAR 26.11.03.15 or a minor permit modification as defined under COMAR 26.11.03.16.

b. This permit does not preclude the Permittee from making changes, consistent with the provisions of COMAR 26.11.03, that would make the permit or particular terms and conditions of the permit irrelevant, such as by shutting down or reducing the level of operation of a source or of an emissions unit within the source. Air pollution control

equipment shall not be shut down or its level of operation reduced if doing so would violate any term of this permit.

c. Significant permit modifications are subject to all requirements of COMAR 26.11.03 as they apply to permit issuance and renewal, including the requirements for applications, public participation, and review by affected states and EPA, except:

(1) An application need include only information pertaining to the proposed change to the source and modification of this permit, including a description of the change and modification, and any new applicable requirements of the Clean Air Act that will apply if the change occurs;

(2) Public participation, and review by affected states and EPA, is limited to only the application and those federally enforceable terms and conditions of the Part 70 permit that are affected by the significant permit modification.

d. As provided in COMAR 26.11.03.15B(5), an administrative permit amendment may be used to make a change that would otherwise require a significant permit modification if procedures for enhanced preconstruction review of the change are followed that satisfy the requirements of 40 CFR 70.7(d)(1)(v).

e. Before making a change that qualifies as a significant permit modification, the Permittee shall obtain all permits-to-construct and approvals required by COMAR 26.11.02.

f. The Permittee shall not make a significant permit modification that results in a violation of any applicable requirement of the Clean Air Act.

g. The permit shield in COMAR 26.11.03.23 applies to a final significant permit modification that has been issued by the Department, to the extent applicable under COMAR 26.11.03.23.

13. MINOR PERMIT MODIFICATIONS

[COMAR 26.11.03.16]

The Permittee may apply to the Department to make a minor modification to the federally enforceable provisions of this Part 70 permit as provided in COMAR 26.11.03.16 and in accordance with the following conditions:

a. A minor permit modification is a Part 70 permit revision that:

(1) Does not result in a violation of any applicable requirement of the Clean Air Act;

(2) Does not significantly revise existing federally enforceable monitoring, including test methods, reporting, record keeping, or compliance certification requirements except by:

(a) Adding new requirements,

(b) Eliminating the requirements if they are rendered meaningless because the emissions to which the requirements apply will no longer occur, or

(c) Changing from one approved test method for a pollutant and source category to another;

(3) Does not require or modify a:

(a) Case-by-case determination of a federally enforceable emissions standard,

(b) Source specific determination for temporary sources of ambient impacts, or

(c) Visibility or increment analysis;

(4) Does not seek to establish or modify a federally enforceable permit term or condition for which there is no corresponding underlying applicable requirement of the Clean Air Act, but that the Permittee has assumed to avoid an applicable requirement to which the source would otherwise be subject, including:

(a) A federally enforceable emissions standard applied to the source pursuant to COMAR 26.11.02.03 to avoid classification as a Title I modification; and

(b) An alternative emissions standard applied to an emissions unit pursuant to regulations promulgated under Section 112(i)(5) of the Clean Air Act

(5) Is not a Title I modification; and

(6) Is not required under COMAR 26.11.03.17 to be processed as a significant modification to this Part 70 permit.

b. Application for a Minor Permit Modification

The Permittee shall submit to the Department an application for a minor permit modification that satisfies the requirements of COMAR 26.11.03.03 which includes the following:

(1) A description of the proposed change, the emissions resulting from the change, and any new applicable requirements that will apply if the change is made;

(2) The proposed minor permit modification;

(3) Certification by a responsible official, in accordance with COMAR 26.11.02.02F, that:

(a) The proposed change meets the criteria for a minor permit modification, and

(b) The Permittee has obtained or applied for all required permits-to-construct required by COMAR 26.11.03.16 with respect to the proposed change;

(4) Completed forms for the Department to use to notify the EPA and affected states, as required by COMAR 26.11.03.07-.12.

c. Permittee's Ability to Make Change

(1) For changes proposed as minor permit modifications to this permit that will require the applicant to obtain a permit to construct, the permit to construct must be issued prior to the new change.

(2) During the period of time after the Permittee applies for a minor modification but before the Department acts in accordance with COMAR 26.11.03.16F(2):

(a) The Permittee shall comply with applicable requirements of the Clean Air Act related to the change and the permit terms and conditions described in the application for the minor modification.

(b) The Permittee is not required to comply with the terms and conditions in the permit it seeks to modify. If the Permittee fails to comply with the terms and conditions in the application during this time, the terms and conditions of both this permit and the application for modification may be enforced against it.

d. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.16 is not within the scope of this regulation.

e. Minor permit modification procedures may be used for Part 70 permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, but only to the extent that the minor permit modification procedures are explicitly provided for in regulations approved by the EPA as part of the Maryland SIP or in other applicable requirements of the Clean Air Act.

14. ADMINISTRATIVE PART 70 OPERATING PERMIT AMENDMENTS

[COMAR 26.11.03.15]

The Permittee may apply to the department to make an administrative permit amendment as provided in COMAR 26.11.03.15 and in accordance with the following conditions:

a. An application for an administrative permit amendment shall:

(1) Be in writing;

(2) Include a statement certified by a responsible official that the proposed amendment meets the criteria in COMAR 26.11.03.15 for an administrative permit amendment, and

(3) Identify those provisions of this part 70 permit for which the amendment is requested, including the basis for the request.

b. An administrative permit amendment:

(1) Is a correction of a typographical error;

(2) Identifies a change in the name, address, or phone number of a person identified in this permit, or a similar administrative change involving the Permittee or other matters which are not directly related to the control of air pollution;

(3) requires more frequent monitoring or reporting by the Permittee;

(4) Allows for a change in ownership or operational control of a source for which the Department determines that no other revision to the permit is necessary and is documented as per COMAR 26.11.03.15B(4);

(5) Incorporates into this permit the requirements from preconstruction review permits or approvals issued by the Department in accordance with COMAR 26.11.03.15B(5), but only if it satisfies 40 CFR 70.7(d)(1)(v);

(6) Incorporates any other type of change, as approved by the EPA, which is similar to those in COMAR 26.11.03.15B(1)—(4);

(7) Notwithstanding COMAR 26.11.03.15B(1)—(6), all modifications to acid rain control provisions included in this Part 70 permit are governed by applicable requirements promulgated under Title IV of the Clean Air Act; or

(8) Incorporates any change to a term or condition specified as State-only enforceable, if the Permittee has obtained all necessary permits-to-construct and approvals that apply to the change.

c. The Permittee may make the change addressed in the application for an administrative amendment upon receipt by the Department of the application, if all permits-to-construct or approvals otherwise required

by COMAR 26.11.02 prior to making the change have first been obtained from the Department.

d. The permit shield in COMAR 26.11.03.23 applies to administrative permit amendments made under Section B(5) of COMAR 26.11.03.15 , but only after the Department takes final action to revise the permit.

e. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.15 is not within the scope of this regulation.

15. OFF-PERMIT CHANGES TO THIS SOURCE

[COMAR 26.11.03.19]

The Permittee may make off-permit changes to this facility as provided in COMAR 26.11.03.19 and in accordance with the following conditions:

a. The Permittee may make a change to this permitted facility that is not addressed or prohibited by the federally enforceable conditions of this Part 70 permit without obtaining a Part 70 permit revision if:

(1) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(2) The change is not subject to any requirements under Title IV of the Clean Air Act;

(3) The change is not a Title I modification; and

(4) The change does not violate an applicable requirement of the Clean Air Act or a federally enforceable term or condition of the permit.

b. For a change that qualifies under COMAR 26.11.03.19, the Permittee shall provide contemporaneous written notice to the Department and the EPA, except for a change to an emissions unit or activity that is exempt from the Part 70 permit application, as provided in COMAR 26.11.03.04. This written notice shall describe the change, including the date it was made, any change in emissions, including the pollutants emitted, and any new applicable requirements of the Clean Air Act that apply as a result of the change.

c. Upon satisfying the requirements of COMAR 26.11.03.19, the Permittee may make the proposed change.

d. The Permittee shall keep a record describing:

(1) Changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement of the Clean Air Act , but not otherwise regulated under this permit; and

(2) The emissions resulting from those changes.

e. Changes that qualify under COMAR 26.11.03.19 are not subject to the requirements for Part 70 revisions.

f. The Permittee shall include each off-permit change under COMAR 26.11.03.19 in the application for renewal of the part 70 permit.

g. The permit shield in COMAR 26.11.03.23 does not apply to off-permit changes made under COMAR 26.11.03.19.

h. The Permittee is subject to enforcement action if it is determined that an off-permit change made under COMAR 26.11.03.19 is not within the scope of this regulation.

16. ON-PERMIT CHANGES TO SOURCES

[COMAR 26.11.03.18]

The Permittee may make on-permit changes that are allowed under Section 502(b)(10) of the Clean Air Act as provided in COMAR 26.11.03.18 and in accordance with the following conditions:

a. The Permittee may make a change to this facility without obtaining a revision to this Part 70 permit if:

(1) The change is not a Title I modification;

(2) The change does not result in emissions in excess of those expressly allowed under the federally enforceable provisions of the Part 70 permit for the permitted facility or for an emissions

unit within the facility, whether expressed as a rate of emissions or in terms of total emissions;

(3) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(4) The change does not violate an applicable requirement of the Clean Air Act;

(5) The change does not violate a federally enforceable permit term or condition related to monitoring, including test methods, record keeping, reporting, or compliance certification requirements;

(6) The change does not violate a federally enforceable permit term or condition limiting hours of operation, work practices, fuel usage, raw material usage, or production levels if the term or condition has been established to limit emissions allowable under this permit;

(7) If applicable, the change does not modify a federally enforceable provision of a compliance plan or schedule in this Part 70 permit unless the Department has approved the change in writing; and

(8) This permit does not expressly prohibit the change under COMAR 26.11.03.18.

b. The Permittee shall notify the Department and the EPA in writing of a proposed on-permit change under COMAR 26.11.03.18 not later than 7 days before the change is made. The written information shall include the following information:

(1) A description of the proposed change;

(2) The date on which the change is proposed to be made;

(3) Any change in emissions resulting from the change, including the pollutants emitted;

(4) Any new applicable requirement of the Clean Air Act; and

(5) Any permit term or condition that would no longer apply.

c. The responsible official of this facility shall certify in accordance with COMAR 26.11.02.02F that the proposed change meets the criteria for the use of on-permit changes under COMAR 26.11.03.18.

d. The Permittee shall attach a copy of each notice required by condition b. above to this Part 70 permit.

e. On-permit changes that qualify under COMAR 26.11.03.18 are not subject to the requirements for part 70 permit revisions.

f. Upon satisfying the requirements under COMAR 26.11.03.18, the Permittee may make the proposed change.

g. The permit shield in COMAR 26.11.03.23 does not apply to on-permit changes under COMAR 26.11.03.18.

h. The Permittee is subject to enforcement action if it is determined that an on-permit change made under COMAR 26.11.03.18 is not within the scope of the regulation or violates any requirement of the State air pollution control law.

17. FEE PAYMENT

[COMAR 26.11.02.16A(2) & (5)(b)]

a. The fee for this Part 70 permit is as prescribed in Regulation .19 of COMAR 26.11.02.

b. The fee is due on and shall be paid on or before each 12-month anniversary date of the permit.

c. Failure to pay the annual permit fee constitutes cause for revocation of the permit by the Department.

18. REQUIREMENTS FOR PERMITS-TO-CONSTRUCT AND APPROVALS

[COMAR 26.11.02.09.]

The Permittee may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits-to-construct and approvals:

a. New Source Review source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

b. Prevention of Significant Deterioration source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

c. New Source Performance Standard source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

d. National Emission Standards for Hazardous Air Pollutants source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

e. A stationary source of lead that discharges one ton per year or more of lead or lead compounds measured as elemental lead, permit to construct required, except for generating stations constructed by electric companies;

f. All stationary sources of air pollution, including installations and air pollution control equipment, except as listed in COMAR 26.11.02.10, permit to construct required;

g. In the event of a conflict between the applicability of (a.— e.) above and an exemption listed in COMAR 26.11.02.10, the provision that requires a permit applies.

h. Approval of a PSD or NSR source by the Department does not relieve the Permittee obtaining an approval from also obtaining all permits-to-construct required b y (c.— g.) above.

19. CONSOLIDATION OF PROCEDURES FOR PUBLIC PARTICIPATION

[COMAR 26.11.02.11C] and [COMAR 26.11.03.01K]

The Permittee may request the Department to authorize special procedures for the Permittee to apply simultaneously, to the extent possible, for a permit to construct and a revision to this permit.

These procedures may provide for combined public notices, informational meetings, and public hearings for both permits but shall not adversely affect the rights of a person, including EPA and affected states, to obtain information about the application for a permit, to comment on an application, or to challenge a permit that is issued.

These procedures shall not alter any existing permit procedures or time frames.

20. PROPERTY RIGHTS

[COMAR 26.11.03.06E(4)]

This Part 70 permit does not convey any property rights of any sort, or any exclusive privileges.

21. SEVERABILITY

[COMAR 26.11.03.06A(5)]

If any portion of this Part 70 permit is challenged, or any term or condition deemed unenforceable, the remainder of the requirements of the permit continues to be valid.

22. INSPECTION AND ENTRY

[COMAR 26.11.03.06G(3)]

The Permittee shall allow employees and authorized representatives of the Department, the EPA, and local environmental health agencies, upon presentation of credentials or other documents as may be required by law, to:

a. Enter at a reasonable time without delay and without prior notification the Permittee's property where a Part 70 source is located, emissions-related activity is conducted, or records required by this permit are kept;

b. Have access to and make copies of records required by the permit;

c. Inspect all emissions units within the facility subject to the permit and all related monitoring systems, air pollution control equipment, and practices or operations regulated or required by the permit; and

d. Sample or monitor any substances or parameters at or related to the emissions units at the facility for the purpose of determining compliance with the permit.

23. DUTY TO PROVIDE INFORMATION

[COMAR 26.11.03.06E(5)]

The Permittee shall furnish to the Department, within a reasonable time specified by the Department, information requested in writing by the Department in order to determine whether the Permittee is in compliance with the federally enforceable conditions of this Part 70 permit, or whether cause exists for revising or revoking the permit. Upon request, the Permittee shall also furnish to the Department records required to be kept under the permit.

For information claimed by the Permittee to be confidential and therefore potentially not discloseable to the public, the Department may require the Permittee to provide a copy of the records directly to the EPA along with a claim of confidentiality.

The Permittee shall also furnish to the Department, within a reasonable time specified by the Department, information or records requested in writing by the Department in order to determine if the Permittee is in compliance with the State-only enforceable conditions of this permit.

24. COMPLIANCE REQUIREMENTS

[COMAR 26.11.03.06E(1)] and [COMAR 26.11.03.06A(11)] and [COMAR 26.11.02.05]

The Permittee shall comply with the conditions of this Part 70 permit. Noncompliance with the permit constitutes a violation of the Clean Air Act, and/or the Environment Article Title 2 of the Annotated Code of Maryland and may subject the Permittee to:

a. Enforcement action,

b. Permit revocation or revision,

c. Denial of the renewal of a Part 70 permit, or

d. Any combination of these actions.

The conditions in this Part 70 permit are enforceable by EPA and citizens under the Clean Air Act except for the State-only enforceable conditions.

Under Environment Article Section 2-609, Annotated Code of Maryland, the Department may seek immediate injunctive relief against a person who violates this permit in such a manner as to cause a threat to human health or the environment.

25. CREDIBLE EVIDENCE

Nothing in this permit shall be interpreted to preclude the use of credible evidence to demonstrate noncompliance with any term of this permit.

26. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

[COMAR 26.11.03.06E(2)]

The need to halt or reduce activity in order to comply with the conditions of this permit may not be used as a defense in an enforcement action.

27. CIRCUMVENTION

[COMAR 26.11.01.06]

The Permittee may not install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes emissions which would otherwise constitute a violation of any applicable air pollution control regulation.

28. PERMIT SHIELD

[COMAR 26.11.03.23]

A permit shield as described in COMAR 26.11.03.23 shall apply only to terms and conditions in this Part 70 permit that have been specifically identified as covered by the permit shield. Neither this permit nor COMAR 26.11.03.23 alters the following:

a. The emergency order provisions in Section 303 of the Clean Air Act, including the authority of EPA under that section;

b. The liability of the Permittee for a violation of an applicable requirement of the Clean Air Act before or when this permit is issued or for a violation that continues after issuance;

c. The requirements of the Acid Rain Program, consistent with Section 408(a) of the Clean Air Act;

d. The ability of the Department or EPA to obtain information from a source pursuant to Maryland law and Section 114 of the Clean Air Act; or

e. The authority of the Department to enforce an applicable requirement of the State air pollution control law that is not an applicable requirement of the Clean Air Act.

29. ALTERNATE OPERATING SCENARIOS

[COMAR 26.11.03.06A(9)]

For all alternate operating scenarios approved by the Department and contained within this permit, the Permittee, while changing from one approved scenario to another, shall contemporaneously record in a log maintained at the facility each scenario under which the emissions unit is operating and the date and time the scenario started and ended.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION III PLANT WIDE CONDITIONS

1. PARTICULATE MATTER FROM CONSTRUCTION AND DEMOLITION

[COMAR 26.11.06.03D]

The Permittee shall not cause or permit any building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

2. OPEN BURNING

[COMAR 26.11.07]

Except as provided in COMAR 26.11.07.04, the Permittee shall not cause or permit an open fire from June 1 through August 31 of any calendar year. Prior to any open burning, the Permittee shall request and receive approval from the Department.

3. AIR POLLUTION EPISODE

[COMAR 26.11.05.04]

When requested by the Department, the Permittee shall prepare in writing standby emissions reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning, and Emergency of an air pollution episode.

4. REPORT OF EXCESS EMISSIONS AND DEVIATIONS

[COMAR 26.11.01.07] and [COMAR 26.11.03.06C(7)]

The Permittee shall comply with the following conditions for occurrences of excess emissions and deviations from requirements of this permit, including those in Section VI – State-only Enforceable Conditions:

a. Report any deviation from permit requirements that could endanger human health or the environment, by orally notifying the Department immediately upon discovery of the deviation;

b. Promptly report all occurrences of excess emissions that are expected to last for one hour or longer by orally notifying the Department of the onset and termination of the occurrence;

c. When requested by the Department the Permittee shall report all deviations from permit conditions, including those attributed to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to the Department. The written report shall include the cause, dates and times of the onset and termination of the deviation, and an account of all actions planned or taken to reduce, eliminate, and prevent recurrence of the deviation;

d. The Permittee shall submit to the Department semi-annual monitoring reports that confirm that all required monitoring was performed, and that provide accounts of all deviations from permit requirements that occurred during the reporting periods. Reporting periods shall be January 1 through June 30 and July 1 through December 31, and reports shall be submitted within 30 days of the end of each reporting period. Each account of deviation shall include a description of the deviation, the dates and times of onset and termination, identification of the person who observed or discovered the deviation, causes and corrective actions taken, and actions taken to prevent recurrence. If no deviations from permit conditions occurred during a reporting period, the Permittee shall submit a written report that so states.

e. When requested by the Department, the Permittee shall submit a written report to the Department within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.07D(2).

5. ACCIDENTAL RELEASE PROVISIONS

Should the Permittee become subject to 40 CFR 68 during the term of this permit, the Permittee shall submit risk management plans by the date specified in 40 CFR 68.150 and shall certify compliance with the requirements of 40 CFR 68 as part of the annual compliance certification as required by 40 CFR 70.

The Permittee shall initiate a permit revision or reopening according to the procedures of 40 CFR 70.7 to incorporate appropriate permit conditions into the Permittee's Part 70 permit.

6. GENERAL TESTING REQUIREMENTS

[COMAR 26.11.01.04]

The Department may require the Permittee to conduct, or have conducted, testing to determine compliance with this Part 70 permit. The Department, at its option, may witness or conduct these tests. This testing shall be done at a reasonable time, and all information gathered during a testing operation shall be provided to the Department.

7. EMISSIONS TEST METHODS

[COMAR 26.11.01.04]

Compliance with the emissions standards and limitations in this Part 70 permit shall be determined by the test methods designated and described below or other test methods submitted to and approved by the Department.

Reference documents of the test methods approved by the Department include the following:

a. 40 CFR 60, appendix A

b. 40 CFR 51, appendix M

c. The Department's Technical Memorandum 91-01 "Test Methods and Equipment Specifications for Stationary Sources", (January 1991), as amended through Supplement 3, (October 1, 1997)

8. EMISSIONS CERTIFICATION REPORT

[COMAR 26.11.01.05-1] and [COMAR 26.11.02.19C] and [COMAR 26.11.02.19D]

The Permittee shall certify actual annual emissions of regulated pollutants from the facility on a calendar year basis.

a. The certification shall be on forms obtained from the Department and submitted to the Department not later than April 1 of the year following the year for which the certification is required;

b. The individual making the certification shall certify that the information is accurate to the individual's best knowledge. The individual shall be:

(1) Familiar with each source for which the certifications forms are submitted, and

(2) Responsible for the accuracy of the emissions information;

c. The Permittee shall maintain records necessary to support the emissions certification including the following information if applicable:

(1) The total amount of actual emissions of each regulated pollutant and the total of all regulated pollutants;

(2) An explanation of the methods used to quantify the emissions and the operating schedules and production data that were used to determine emissions, including significant assumptions made;

(3) Amounts, types and analyses of all fuels used;

(4) Emissions data from continuous emissions monitors that are required by this permit, including monitor calibration and malfunction information;

(5) Identification, description, and use records of all air pollution control equipment and compliance monitoring equipment including:

(a) Significant maintenance performed,
(b) Malfunctions and downtime, and
(c) Episodes of reduced efficiency of all equipment;

(6) Limitations on source operation or any work practice standards that significantly affect emissions; and

(7) Other relevant information as required by the Department.

9. COMPLIANCE CERTIFICATION REPORT

[COMAR 26.11.03.06G(6) and (7)]

The Permittee shall submit to the Department and EPA Region III a report certifying compliance with each term of this Part 70 permit including each applicable standard, emissions limitation, and work practice for the previous calendar year by April 1 of each year.

a. The compliance certification shall include:

(1) The identification of each term or condition of this permit which is the basis of the certification;

(2) The compliance status;

(3) Whether the compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of each source, currently and over the reporting period; and

(5) Any other information required to be reported to the Department that is necessary to determine the compliance status of the Permittee with this permit.

b. The Permittee shall submit the compliance certification reports to the Department and EPA simultaneously.

10. CERTIFICATION BY RESPONSIBLE OFFICIAL

[COMAR 26.11.02.02F]

All application forms, reports, and compliance certifications submitted pursuant to this permit shall be certified by a responsible official as to truth, accuracy, and completeness. The Permittee shall expeditiously notify the Department of an appointment of a new responsible official.

The certification shall be in the following form:
“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons

who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. SAMPLING AND EMISSIONS TESTING RECORD KEEPING

[COMAR 26.11.03.06C(5)]

The Permittee shall gather and retain the following information when sampling and testing for compliance demonstrations:

a. The location as specified in this permit, and the date and time that samples and measurements are taken;

b. All pertinent operating conditions existing at the time that samples and measurements are taken;

c. The date that each analysis of a sample or emissions test is performed and the name of the person taking the sample or performing the emissions test;

d. The identity of the Permittee, individual, or other entity that performed the analysis;

e. The analytical techniques and methods used; and

f. The results of each analysis.

12. GENERAL RECORDKEEPING

[COMAR 26.11.03.06C(6)]

The Permittee shall retain records of all monitoring data and information that support the compliance certification for a period of five (5) years from the date that the monitoring, sample measurement, application, report or emissions test was completed or submitted to the Department.

These records and support information shall include:

a. All calibration and maintenance records;

b. All original data collected from continuous monitoring instrumentation;

c. Records which support the annual emissions certification; and

d. Copies of all reports required by this permit.

13. GENERAL CONFORMITY

[COMAR 26.11.26.09]

The Permittee shall comply with the general conformity requirements of 40 CFR 93, Subpart B and COMAR 26.11.26.09.

14. ASBESTOS PROVISIONS

[40 CFR 61, Subpart M]

The Permittee shall comply with 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

15. OZONE DEPLETING REGULATIONS

[40 CFR 82, Subpart F]

The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for MVACs in subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the prohibitions and required practices pursuant to 40 CFR 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair or disposal of appliances shall comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

c. Persons performing maintenance, service, repairs or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.

d. Persons performing maintenance, service, repairs or disposal of appliances shall certify with the Administrator pursuant to 40 CFR 82.162.

e. Persons disposing of small appliances, MVACS, and MVAC-like appliances as defined in 40 CFR 82.152, shall comply with record keeping requirements pursuant to 40 CFR 82.166.

f. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.

g. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

16. ACID RAIN PERMIT

The Permittee shall comply with the provisions and all applicable requirements of the renewal Phase II Acid Rain Permit for the affected units that are being issued in conjunction with this permit. See attached Appendix A.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION IV PLANT SPECIFIC CONDITIONS

This section provides tables that include the emissions standards, emissions limitations, and work practices applicable to each emissions unit located at this facility. The Permittee shall comply with all applicable emissions standards, emissions limitations and work practices included herein.

The tables also include testing, monitoring, record keeping and reporting requirements specific to each emissions unit. In addition to the requirements included here in **Section IV**, the Permittee is also subject to the general testing, monitoring, record keeping and reporting requirements included in **Section III – Plant Wide Conditions** of this permit.

Unless otherwise provided in the specific requirements for an emissions unit, the Permittee shall maintain at the facility for at least five (5) years, and shall make available to the Department upon request, all records that the Permittee is required under this section to establish. **[Reference: COMAR 26.11.03.06C(5)(g)]**

Table IV – 1	
1.0	**Emissions Unit Number(s): F1 and F2: Boilers** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and economizer. The Unit is equipped with LNBs, SCR, ESP and FGD. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No.6 oil as an alternative primary fuel. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and economizer. The Unit is equipped with LNBs, SCR, ESP and FGD. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No.6 oil as an alternative primary fuel. (**3-0003**)
1.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05A (1) & (3)** – Fuel Burning Equipment "Areas I, II, V, and VI. In Areas I, II, V, and VI, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	than water in an uncombined form, which is greater than 20 percent opacity. 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 Permittee shall comply with the terms of the March 2008 Consent Decree. Compliance with the March 2008 Consent Decree will be considered compliance for **COMAR 26.11.09.05A(1)**. See the details of the March 2008 Consent Decree in State Only Section of the Permit. *See State-only Section for additional Requirements for the By-Pass Stack.* B. Control of Particulate Matter Emissions **COMAR 26.11.09.06A(1)** – Fuel-Burning Equipment Constructed Before January 17, 1972. "A person may not cause or permit particulate matter caused by the combustion of solid fuel or residual fuel oil in the fuel burning equipment erected before January 17, 1972, to be discharged into the atmosphere in excess of the amounts shown in Figure 1." (**Note**: Maximum allowable value in Figure 1 value is 1.4 pounds/million BTU of heat input) **COMAR 26.11.09.06C**. Determination of Compliance (by stack test). "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." **40 CFR Part 63, Subpart UUUUU—National Emission Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units (MATS rule) -** The Permittee will comply with a PM emissions limit of 0.03 pounds/million Btu of heat input. See the details in the compliance table for the MATS rule **Table IV – 1e – MACT Subpart UUUUU.** Note: See **SECTION VI - STATE-ONLY ENFORCEABLE CONDITIONS** of the permit for a PM emissions limit for **Units FI** and **F2** based on a March 2008 Consent Decree. C. Control of Sulfur Oxides (1) **COMAR 26.11.09.07A(1)** - Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1

sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI:
(a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour;
(b) Residual fuel oils, 2.0 percent;
(c) Distillate fuel oils, 0.3 percent;
(d) Process gas used as fuel, 0.3 percent."

See Additional Requirements in Table IV-1e: CPCN 9085.

(2) Emission Limitation for Power Plants requirements*:*
COMAR 26.11.27.03C. SO_2 Emission Limitations.
(1) Except as provided in §E of this regulation, annual SO_2 emissions from each affected electric generating unit may not exceed the number of tons in §C(2) of this regulation.
(2) Annual Tonnage Limitations.

Affected Unit	Annual SO_2 Tonnage Limitations Beginning
	January 1, 2013
Morgantown Unit 1	4,678 tons
Morgantown Unit 2	4,646 tons
System-wide	18,541 tons

COMAR 26.11.27.03E. System-Wide Compliance Determinations.
(1) Compliance with the emission limitations in §§B and C of this regulation may be achieved by demonstrating that the total number of tons emitted from all electric generating units in a system does not exceed the sum of the tonnage limitations for all electric generating units in that system.
(2) A system-wide compliance determination shall be based only upon emissions from units in Maryland that are subject to the emission limitations in §§B and C of this regulation.
(3) If a unit that is part of a system is transferred to a different person that does not own, operate, lease, or control an affected unit subject to this chapter, the transferred unit shall meet the limitations in §§B and C of this regulation applicable to that electric generating unit.

(3) Acid Rain Permit
The Permittee shall comply with the requirements of the Phase II Acid Rain Permit issued for this generating station. Note: A renewal Phase II Acid Rain Permit will be issued in conjunction with this Part 70 permit and is attached to the Part 70 permit as Appendix A

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	(4) Cross-State Air Pollution Rule **TR SO_2 Group 1 Trading Program 40 CFR Part 97 Subpart CCCCC** The Permittee shall comply with the provisions and requirements of §97.601 through §97.635 **Note: §97.606(c) SO_2 emissions requirements.** For TR SO_2 Group 1 emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source shall hold, in the source's compliance account, TR SO_2 Group 1 allowances available for deduction for such control period under §97.624(a) in an amount not less than the tons of total SO_2 emissions for such control period from all TR SO_2 Group 1 units at the source. Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a TR SO_2 Group 1 allowance transfer must be submitted for recordation in a TR SO_2 Group 1 source's compliance account in order to be available for use in complying with the source's TR SO_2 Group 1 emissions limitation for such control period in accordance with §§97.606 and 97.624. D. Control of Nitrogen Oxides (1) NO_X RACT Requirements **COMAR 26.11.09.08B(5)** - Operator Training. (a) For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. (b) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department." **COMAR 26.11.09.08C**. - Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 250 Million Btu Per Hour or Greater. "(1) A person who owns or operates fuel-burning equipment with a rated heat input capacity of 250 Million Btu per hour or greater shall equip each installation with combustion modifications or other technologies to meet the NO_X emission rates in §C(2) of this regulation. (2) The maximum NO_X emission rates as pounds of NO_X per Million Btu per hour are: (a) 0.45 for tangentially coal fired units located at an electric generating facility (excluding high heat release units); (b) 0.50 for wall coal fired units located at an electric generating facility

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1

(excluding high heat release units);
(c) 0.30 for oil fired or gas/oil fired units located at an electric generating facility;
(d) 0.70 for coal fired cyclone fuel burning equipment located at an electric generating facility from May 1 through September 30 of each year and 1.5 during the period October 1 through April 30 of each year;
(**e) 0.70 for a tangentially coal fired high heat release unit located at an electric generating facility**;
(f) 0.80 for a wall coal fired high heat release unit located at an electric generating facility;
(g) 0.6 for coal fired cell burners at an electric generating facility; and
(h) 0.70 for fuel burning equipment stacks at a non-electric generating facility during the period May 1 through September 30 of each year and 0.99 during the period October 1 through April 30 of each year.
(3) A person who owns or operates fuel burning equipment with a rated heat input capacity of 250 Million Btu per hour or greater shall install, operate, calibrate, and maintain a certified NO_X CEM or an alternative NO_X monitoring method approved by the Department and the EPA on each installation.
COMAR 26.11.09.08B(2)(d) - Demonstration of Compliance. "Except as otherwise established by the Department and approved by the EPA, for a person who establishes compliance with the NO_X emissions standards in this regulation using a CEM, compliance shall be determined as 30-day rolling averages."

(2) Emission Limitation for Power Plants requirements:
COMAR 26.11.27.03B. NO_X Emission Limitations.
"(1) Except as provided in §E of this regulation, annual NO_X emissions from each affected electric generating unit may not exceed the number of tons in §B(2) of this regulation.
(2) Annual Tonnage Limitations.

Affected Unit	Annual NO_X Tonnage Limitations Beginning
	January 1, 2012
Morgantown Unit 1	2,094 tons
Morgantown Unit 2	2,079 tons
System-wide	8,298 tons

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

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1

"(6) Ozone Season Tonnage Limitations.

Affected Unit	Ozone Season NO_X Tonnage Limitations Beginning
	May 1, 2012
Morgantown Unit 1	868 tons
Morgantown Unit 2	864 tons
System-wide	3,567 tons

(7) Electric System Reliability During Ozone Seasons.
(a) An exceedance of the NO_X limitations in §B(4) or (6) of this regulation which occurs because PJM Interconnection, LLC or a successor independent system operator, acts to invoke "Maximum Emergency Generation", "Load Reduction", "Voltage Reduction", "Curtailment of Non-essential Building Load", or "Manual Load Dump" procedures in accordance with the current PJM Manual, or a PJM alert preceding such action as to a generating unit that has temporarily shut down in order to avoid potential interruption in electric service and maintain electric system reliability is not a violation of this chapter provided that:
(i) Within 36 hours following the action, the owner or operator of the affected electric generating unit or units notifies the Manager of the Air Quality Compliance Program of the action taken by PJM Interconnection and provides the Department with documentation of the action which is satisfactory to the Department;
(ii) Within 48 hours after completion of the action, the owner or operator of the affected unit or units provides the Department with the estimated NO_X emissions in excess of the emission limitation; and
(iii) *See State-only enforceable section of the permit for additional requirement.*
(b) The owner or operator of an electric generating unit or system, as applicable, shall send written notice to the Manager of the Air Quality Compliance Program not later than 5 business days following the day when the cumulative ozone season NO_X emissions of an electric generating unit or system, as applicable, are:
(i) Equal to approximately 80 percent of the applicable ozone season emission limitation; and
(ii) Equal to the applicable ozone season emission limitation. "

COMAR 26.11.27.03E. System-Wide Compliance Determinations.
"(1) Compliance with the emission limitations in §§B and C of this regulation may be achieved by demonstrating that the total number of tons emitted from all electric generating units in a system does not exceed the sum of the tonnage limitations for all electric generating units in that system.
(2) A system-wide compliance determination shall be based only upon emissions from units in Maryland that are subject to the emission limitations in §§B and C of this regulation.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	(3) If a unit that is part of a system is transferred to a different person that does not own, operate, lease, or control an affected unit subject to this chapter, the transferred unit shall meet the limitations in §§B and C of this regulation applicable to that electric generating unit." (3) Potomac River Consent Decree The Permittee shall comply with the requirements of Potomac River Consent Decree. See **Table IV- 1a** Note: The Consent Decree establishes a NRG System-Wide Annual NO_X Tonnage Limitation and a System-Wide Ozone Season NO_X Emissions Limitation. Morgantown Units 1 and Unit 2 are included in the NRG System. See the details of the Potomac River Consent Decree under Section F of the Fact Sheet for Emission Units F-1 and F-2. "Beginning May 1, 2007, NRG shall not operate Morgantown Unit 1 unless it has installed and continuously operates, on a year-round basis, Selective Catalytic Reduction technology ("SCR") (or equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 53**] ***SCR was placed into operation on Unit 1 prior to May 2007.*** "Beginning May 1, 2008, NRG shall not operate Morgantown Unit 2 unless it has installed and continuously operates, on a year-round basis, SCR (or an equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 54**] ***SCR was placed into operation on Unit 2 prior to May 2008.*** (4) Acid Rain Permit The Permittee shall comply with the requirements of the renewal Phase II Acid Rain Permit issued for this generating station. Note: A renewal Phase II Acid Rain Permit will be issued in conjunction with this Part 70 permit and is attached to the Part 70 permit as Appendix A. (5) Cross-State Air Pollution Rule **TR NO_X Annual Trading Program 40 CFR Part 97 Subpart AAAAA** The Permittee shall comply with the provisions and requirements of §97.401 through §97.435 **Note: §97.406(c) NO_X emissions requirements**. For TR NO_X Annual emissions limitation: As of the allowance transfer deadline for a control

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	period in a given year, the owners and operators of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall hold, in the source's compliance account, TR NO_X Annual allowances available for deduction for such control period under §97.424(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Annual units at the source. Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Annual allowance transfer must be submitted for recordation in a TR NO_X Annual source's compliance account in order to be available for use in complying with the source's TR NO_X Annual emissions limitation for such control period in accordance with §§97.406 and 97.424. **TR NO_X Ozone Season Trading Program 40 CFR Part 97 Subpart BBBBB** The Permittee shall comply with the provisions and requirements of §97.501 through §97.535. **Note: §97.506(c) NO_X emissions requirements**. For TR NO_X Ozone Season emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall hold, in the source's compliance account, TR NO_X Ozone Season allowances available for deduction for such control period under §97.524(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Ozone Season units at the source. Allowance transfer deadline means, for a control period in a given year, midnight of December 1 (if it is a business day), or midnight of the first business day thereafter (if December 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Ozone Season allowance transfer must be submitted for recordation in a TR NO_X Ozone Season source's compliance account in order to be available for use in complying with the source's TR NO_X Ozone Season emissions limitation for such control period in accordance with §§97.506 and 97.524.
1.2	**Testing Requirements:** A. Control of Visible Emissions: The Permittee shall perform quality assurance procedures on the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	continuous opacity monitoring system as established in COMAR 26.11.31. **[Reference: COMAR 26.11.03.06C**] B. Control of Particulate Matter: The Permittee in accordance with COMAR 26.11.01.04A(1) and July 22, 1992 Consent Order, shall conduct annual testing. Annual testing shall be performed using EPA Reference Method 5 of 40 CFR Part 60 Appendix A (Section C). The Permittee shall submit a protocol to the Department for approval at least 30 days prior to the scheduled date of the test. **[Reference: COMAR 26.11.03.06C]** C. Control of Sulfur Oxides: 1) See Monitoring Requirements 2) Emission Limitation for Power Plants requirements See Monitoring Requirements. 3) Acid Rain Permit See Monitoring Requirements. 4) Cross-State Air Pollution Rule See Monitoring Requirements. D. Control of Nitrogen Oxides: 1) NO_X RACT Requirements See Monitoring Requirements. 2) Emission Limitation for Power Plants requirements: See Monitoring Requirements. 3) Potomac River Consent Decree See Monitoring Requirements. 4) Acid Rain Permit See Monitoring Requirements. 5) Cross-State Air Pollution Rule See Monitoring Requirements.
1.3	**Monitoring Requirements:** A. Control of Visible Emissions See Control of Particulate Matter Requirements Table IV-1, 1.3B. *See State-only Section for additional Monitoring Requirements*.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	B. Control of Particulate Matter: The Permittee shall comply with the particulate emission monitoring (PEM) requirements of 40 CFR Part 63, Subpart UUUUU. Also see requirements of the Enhanced Monitoring Plan for the bypass stack in Table IV-1b & 1c – Enhanced Emission Monitoring Plan. **[Reference: COMAR 26.11.03.06C]** C. Control of Sulfur Oxides For 1) through 3): The Permittee shall continuously monitor sulfur dioxide emissions using a CEM that meets the requirements of 40 CFR Part 75, Subpart B §75.10A(1) & (2). This continuous monitoring system shall be used to collect emissions information to demonstrate compliance with NAAQS SO_2 standard, the Healthy Air Act limitations, and the Acid Rain Program. **[Reference: COMAR 26.11.03.06C; COMAR 26.11.27.05A, July 22, 1992 Consent Decree and Acid Rain Permit**]. The Permittee shall perform quality control/quality assurance procedures on the continuous emission monitoring system as established in 40 CFR Part 75, Appendix B. **[Reference: COMAR 26.11.01.11C]** 4) Cross-State Air Pollution Rule The Permittee shall comply with the monitoring requirements found in §97.606, §97.630, §97.631, §97.632, and §97.633. D. Control of Nitrogen Oxides For 1) through 4): The Permittee shall operate, calibrate, and maintain a certified NO_X CEM or an alternative NO_X monitoring method approved by the Department and the EPA on each installation. [**Reference: COMAR 26.11.09.08C(3)]** The Permittee shall perform quality control/quality assurance procedures on the continuous emission monitoring system as established in 40 CFR Part 75, Appendix B. **[Reference: COMAR 26.11.01.11C]** The Permittee shall certify CEMs in accordance with 40 CFR Part 75, Appendix A. **[Reference: COMAR 26.11.09.08B(2)(b)]** 5) Cross-State Air Pollution Rule The Permittee shall comply with the monitoring requirements found in §97.406, §97.430, §97.431, §97.432, and §97.433 for the NO_X Annual Trading Program and §97.506, §97.530, §97.531, §97.532, and §97.533 for the NO_X Ozone Season Trading Program.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
1.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions See Control of Particulate Matter Requirements Table IV-1, 1.3B. B. Control of Particulate Matter: The Permittee shall maintain records of all particulate matter emissions tests. **[Reference: COMAR 26.11.03.06C**] C. Control of Sulfur Oxides 1) The Permittee shall maintain all records necessary to comply with data reporting requirements of COMAR 26.11.01.11E(2). **[Reference COMAR 26.11.01.11E(2)]**. 2) Emission Limitation for Power Plants Requirements: The Permittee shall maintain records sufficient to demonstrate compliance with the requirements of the Healthy Air Act, COMAR 26.11.27. **[Reference: COMAR 26.11.01.05A].** 3) Acid Rain Permit The Acid Rain Permit contains program specific recordkeeping requirements. **[Reference: 40 CFR Part 75, Subpart F].** 4) Cross-State Air Pollution Rule The Permittee shall comply with the recordkeeping requirements found in §97.606, §97.630, and §97.634. D. Control of Nitrogen Oxides 1) NO_X RACT Requirements The Permittee shall maintain records necessary for the quarterly emission reports. **[Reference: COMAR 26.11.03.06C]** 2) Emission Limitation for Power Plants requirements: The Permittee shall maintain records sufficient to demonstrate compliance with the requirements of the Healthy Air Act, COMAR 26.11.27. **[Reference: COMAR 26.11.01.05A].** 3) Potomac River Consent Decree The Permittee shall comply with the recordkeeping requirements of the Potomac River Consent Decree. See paragraph 17 in Table IV-1a: Potomac River Consent Decree. **[Reference: COMAR 26.11.03.06C]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	4) Acid Rain Permit The Acid Rain Permit contains program specific recordkeeping requirements. **[Reference: 40 CFR Part 75, Subpart F].** 5) Cross-State Air Pollution Rule The Permittee shall comply with the recordkeeping requirements found in §97.406, §97.430, and §97.434 for the NO_X Annual Trading Program and §97.506, §97.530, and §97.534 for the NO_X Ozone Season Trading Program.
1.5	**<u>Reporting Requirements</u>:** A. <u>Control of Visible Emissions</u> The Permittee shall report: All CEM system downtime that lasts or is expected to last more than 24 hours shall be reported to the Department by telephone before 10 a.m. of the first regular business day following the breakdown. The system breakdown report required by Sec. E(1)(a) of this regulation shall include the reason, if known, for the breakdown and the estimated period of time that the CEM will be down. The owner or operator of the CEM shall notify the Department by telephone when an out-of-service CEM is back in operation and producing valid data. **[Reference: COMAR 26.11.01.11E(2)]** The Permittee shall submit: Quarterly summary reports to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by the Department, and shall include the following: (i) The cause, time periods, and magnitude of all emissions which exceed the applicable emission standards; (ii) The source downtime including the time and date of the beginning and end of each downtime period and whether the source downtime was planned or unplanned; (iii) The time periods and cause of all CEM downtime including records of any repairs, adjustments, or maintenance that may affect the validity of emission data; (iv) Quarterly totals of excess emissions, installation downtime, and CEM downtime during the calendar quarter; (v) Quarterly quality assurance activities; and (vi) Daily calibration activities that include reference values, actual values, absolute or percent of span differences, and drift status; and (vii) Other information required by the Department that is determined to be

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	necessary to evaluate the data, to ensure that compliance is achieved, or to determine the applicability of this regulation." **[Reference: COMAR 26.11.01.11E(2)]** B. Control of Particulate Matter: The Permittee shall report the results of the particulate emissions stack test to the Department within 45 days after completion of the testing. **[Reference: COMAR 26.11.03.06C]** C. Control of Sulfur Oxides 1) The Permittee shall submit a quarterly summary report to the Department not later than 30 days following each calendar quarter that contains the information listed in COMAR 26.11.01.11E(2)(c)(i) through (vii). **[Reference: COMAR 26.11.01.11E(2)]**. 2) The Permittee shall submit a quarterly summary report to the Department not later than 30 days following each calendar quarter that contains the information listed in COMAR 26.11.01.11E(2)(c)(i) through (vii). **[Reference: COMAR 26.11.01.11E(2)]**. 3) Emission Limitation for Power Plants Requirements: **COMAR 26.11.27.05 -** Monitoring and Reporting Requirements. **B**. Beginning with calendar year 2007 and each year thereafter, the owner or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year. **C**. Each report shall include: (1) Emissions performance results related to compliance with the emission requirements under this chapter; (2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit; (3) A current compliance plan; and (4) Any other information requested by the Department. 4) Acid Rain Permit The Acid Rain Permit contains program specific reporting requirements. **[Reference: 40 CFR Part 75, Subpart G].** 5) Cross-State Air Pollution Rule The Permittee shall comply with the reporting requirements found in §97.606, §97.630, §97.633 and §97.634.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	D. Control of Nitrogen Oxides 1) NO_X RACT Requirements The Permittee shall submit quarterly emission reports of CEM data to the Department on or before the thirtieth day of the month following the end of each calendar quarter. The emissions report shall contain the information required by COMAR 26.11.01.11E(2) [**Reference: COMAR 26.11.09.08K(1) and COMAR 26.11.03.06C]** 2) Emission Limitation for Power Plants Requirements: **COMAR 26.11.27.05 -** Monitoring and Reporting Requirements. **B**. Beginning with calendar year 2007 and each year thereafter, the owner or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year. **C**. Each report shall include: (1) Emissions performance results related to compliance with the emission requirements under this chapter; (2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit; (3) A current compliance plan; and (4) Any other information requested by the Department. 3) Potomac River Consent Decree The Permittee shall comply with the reporting requirements of the Potomac River Consent Decree. See paragraphs 15 and 18 through 23 in Table IV-1a: Potomac River Consent Decree. **[Reference: COMAR 26.11.03.06C]** 4) Acid Rain Permit The Acid Rain Permit contains program specific reporting requirements. **[Reference: 40 CFR Part 75, Subpart G].** 5) Cross-State Air Pollution Rule The Permittee shall comply with the reporting requirements found in §97.406, §97.430, §97.433 and §97.434 for the NO_X Annual Trading Program and §97.506, §97.530, §97.533, and §97.534 for the NO_X Ozone Season Trading Program.

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
1a.0	**Emissions Unit Number(s): F1 and F2: Boilers Cont'd** **Potomac River Consent Decree** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)
1a.1	**Applicable Standards/Limits:** D. Control of Nitrogen Oxides "Beginning May 1, 2007, the Permittee shall not operate Morgantown Unit 1 unless it has installed and continuously operates, on a year-round basis, Selective Catalytic Reduction technology ("SCR") (or equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 53**] ***SCR placed into operation on Unit 1 prior to May 2007*** "Beginning May 1, 2008, the Permittee shall not operate Morgantown Unit 2 unless it has installed and continuously operates, on a year-round basis, SCR (or an equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 54**] ***SCR placed into operation on Unit 2 prior to May 2008.*** System-wide Annual Tonnage Limitations for NO_X 1. Except as provided in Paragraph 185,188, or 189 as applicable, NRG shall comply with the following System-Wide Annual Tonnage Limitations for NO_X, which apply to all Units collectively within the NRG System, during each year specified in Table A below: **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 57.]** Note: The NRG system consists of Chalk Point Generating Station Unit 1 and Unit 2; Dickerson Generating Station Unit 1, Unit 2, and Unit 3; **Morgantown Generating Station Unit 1 and Unit 2;** and Potomac River Generating Station Unit 1, Unit 2, Unit 3, Unit 4, and Unit 5. *(Potomac River shut down in October 2012)*. Paragraph 185, 188, and 189 refer to revised requirements that are triggered if NRG severs the Morgantown

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree

Station, the Dickerson Station, or both the Morgantown and Dickerson Stations from the NRG System.

Table A

Applicable Year	System-Wide Annual Tonnage Limitations for NO_X
2010 and each year after	16,000 tons

2. Except as provided in Paragraph 185,188, or 189 as applicable, beginning May 1, 2004, for each Ozone Season specified, the sum of the tons by all Units within the NRG System, shall not exceed the following System-Wide Ozone Season Tonnage Limitations for NO_X in Table B below:
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 58.]

Note: The NRG system consists of Chalk Point Generating Station Unit 1 and Unit 2; Dickerson Generating Station Unit 1, Unit 2, and Unit 3**; Morgantown Generating Station Unit 1 and Unit 2**; and Potomac River Generating Station Unit 1, Unit 2, Unit 3, Unit 4, and Unit 5. *(Potomac River shut down in October 2012)*. Paragraph 185, 188, and 189 refer to revised requirements that are triggered if NRG severs the Morgantown Station, the Dickerson Station, or both the Morgantown and Dickerson Stations from the NRG System.

Table B

Applicable Ozone Season	System-Wide Ozone Season Tonnage Limitations for NO_X
2010 and each ozone season thereafter	5,200 tons

3. Except as provided in Paragraph 185,188, or 189 as applicable, beginning May 1, 2008, and continuing for each and every Ozone Season thereafter, the NRG System shall not exceed a System-Wide Ozone Season Emissions Rate of 0.150 lb/mm Btu NO_X.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 59.]

4. If NRG exceeds the limitations specified in Section IV, Subsection C (System-Wide Annual Tonnage Limitations for NO_X) or D (System-Wide Ozone Season Emissions Limitations), NRG may not claim compliance with this Decree by using, tendering, or otherwise applying NO_X Allowances that were obtained prior to lodging of this Decree, or that are subsequently purchased or otherwise obtained, and stipulated penalties apply as set forth in Section XI (Stipulated Penalties). Except as provided

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	in Paragraphs 61 and 66, NO_X Allowances allocated to, or purchased by, or on behalf of, the NRG System may not be used by NRG to meet its own federal and/or State Clean Air Act regulatory requirements to the extent otherwise allowed by law. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 60.]** 5. Solely for the purpose of compliance with any present or future NO_X trading program set forth in the Maryland State Implementation Plan including the Maryland NO_X Reduction and Trading Program, COMAR 26.11.29-26.11.30, beginning with: (a) the 2004 Ozone Season and during each Ozone Season thereafter, and (b) the year that an annual NO_X allowance trading program becomes effective in Maryland, and during each year thereafter, NRG must first use: (1) any and all allowances previously held by NRG; and (2) allowances allocated to individual plants within the NRG System. Only to the extent that such allowances are insufficient to establish compliance with the requirements of those SIPs, NRG may use NO_X Allowances purchased or otherwise obtained from sources outside the NRG System. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 61.]** 6. Except as provided in this Consent Decree, NRG shall not sell or trade any NO_X Allowances allocated to the NRG System that would otherwise be available for sale or trade as a result of NRG's compliance with any of the NO_X emission limitations specified in this Consent Decree. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 62.]** 7. Provided that NRG is in compliance with all of the NO_X emission limitations specified in the Consent Decree, including both unit-specific and system-wide emissions rates and plant-wide and system-wide tonnage limitations, nothing in this Consent Decree shall preclude NRG from selling or transferring NO_X Allowances allocated to the NRG System that become available for sale or trade when, and only insofar as, both: (a) the total Ozone Season NO_X emissions from all Units within the NRG System are below System-Wide Ozone Season Tonnage Limitations for the applicable year, as specified in Paragraph 58; and (b) the annual NO_X emissions from all Units within the NRG System are below the System-Wide Annual Tonnage Limitations, as specified in Paragraph 57. **[Reference: NRG Potomac River Consent Decree, Section IV,**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	paragraph 63.] 8. In no event shall the emission reductions required by this Decree be considered as credible contemporaneous emission decreases for the purpose of obtaining a netting credit under the Clean Air Act's Nonattainment NSR and PSD programs. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 71]** 9. In order to sell or transfer NO_X Allowances pursuant to Paragraph 63, NRG must also timely report the generation of such NO_X Allowances in accordance with Section IX (Periodic Reporting) of this Consent Decree. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 64.]** 10. For purpose of this Subsection, the "surrender of allowances" means permanently surrendering NO_X Allowances from the accounts administered by Plaintiffs for all Units in the NRG System, so that such allowances can never be used to meet any compliance requirement of any person under the Clean Air Act, the Maryland and Virginia SIPs, or this Consent Decree. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 65.]** 11. For each calendar year beginning with calendar year 2004, NRG shall surrender to EPA, or transfer to a non-profit third party selected by NRG for surrender: (1) the number of Ozone Season NO_X allowances equal to the amount by which the Ozone Season NO_X allowances allocated to all NRG System Units for a particular ozone season are greater than the System-Wide Ozone Season Tonnage Limitations for NO_X established in Paragraph 58 of the Consent Decree for the same year; and (2) the number of "annual" (non-ozone season) NO_X allowances equal to the amount by which the "annual" NO_X allowances allocated to all NRG System Units for a particular non-ozone season are greater than the difference between the System-Wide Annual Tonnage Limitations for NO_X established in Paragraph 57 and the System Wide Ozone Season Tonnage Limitations for NO_X established in Paragraph 58 for that same year. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 66]** 12. If any NO_X Allowances are transferred directly to a non-profit third party, NRG shall include a description of such transfer in the next report

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	submitted to Plaintiffs. Such report shall: (a) provide the identity of the non-profit third party recipient(s) of the NO_X Allowances and a listing of the serial numbers of the transferred NO_X Allowances; and (b) include a certification by the third-party recipient(s), stating that the recipient(s) will not sell, trade, or otherwise exchange any of the NO_X Allowances and will not use any of the Allowances to meet any obligation imposed by any environmental law. No later than the third periodic report due after the transfer of any NO_X Allowances, NRG shall include a statement that the third-party recipient(s) tendered the NO_X Allowances for permanent surrender to Plaintiffs in accordance with the provisions of Paragraph 68 within one (1) year after NRG transferred the NO_X Allowances to them. NRG shall not have complied with the NO_X Allowance surrender requirements of this Paragraph until all third-party recipient(s) shall have actually surrendered the transferred NO_X Allowances to Plaintiffs. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 67]** 13. For all NO_X Allowances surrendered to Plaintiffs, NRG or the non-profit third-party recipient(s) (as the case may be) shall first submit a NO_X Allowance transfer request form to EPA directing the transfer of such NO_X Allowances to the Plaintiffs' Enforcement Surrender Account or to any other Plaintiffs account that Plaintiffs may direct in writing. As part of submitting these transfer requests, NRG or the third-party recipient(s) shall irrevocably authorize the transfer of these NO_X Allowances and identify- by name of account and any applicable serial or other identification numbers or station names- the source and location of the NO_X Allowances being surrendered. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 68]** E. <u>Severance of the Morgantown and/or Dickerson Plants from the NRG System</u> 14. NRG shall comply with paragraphs 185,186,187,188,189,190, 191,192,193,194,195 of Section XIX. Severing the Morgantown Plant: Revised System-wide NO_X Emission Limitations, Section XX. Severing the Dickerson Plant: Revised System-wide NO_X Emission Limitations, XXI Severing the Morgantown and Dickerson Plants: Revised System-wide NO_X Emission Limitations, and Section XXII. Sales or Transfers of Ownership Interests. **[Reference: NRG Potomac River Consent Decree, Sections XIX, XX, XXI, and XXII]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	15. NRG shall comply with the reporting requirements of paragraph 138 and 139 of Section XVII Severance of the Morgantown and/or Dickerson Plants from the NRG System. **[Reference: NRG Potomac River Consent Decree, Section XVII, paragraphs 138 and 139]** F. Monitoring, and Record Keeping and Reporting Requirements 16. In determining Emission Rates for NO_X, NRG shall use CEMs in accordance with those reference methods specified in 40 CFR Part 75. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 69]** 17. NRG shall retain, and instruct its contractors and agents to preserve, all non-identical copies of all records and document (including records and documents in electronic form) now in its or its contractors' or agents' possession or control, and that directly relate to NRG's performance of its obligations under this Consent Decree until December 31, 2015. This record retention requirement shall apply regardless of any corporate document retention policy to the contrary. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 131]** 18. NRG shall submit a report to Plaintiffs containing a summary of the data recorded by each NO_X CEMs in the NRG System, expressed in lb/mmBtu, on a 30-day rolling average basis, in electronic format, within 30 days after the end of each calendar quarter and within 30 days after the end of each month of the Ozone Season, and shall make all data recorded available to the Plaintiffs upon request. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 70]** *Completed (19, 20, & 21)*. **Reference: NRG Potomac River Consent Decree, Section IV, paragraphs 88, 89 & 90]** 22. In addition to the progress reports required pursuant to this Section, NRG shall provide a written report to Plaintiffs of any violation of the requirements of this Consent Decree, including exceedances of any Unit-specific 30-Day Rolling Average Emission Rates, Unit-specific 30-Day Rolling Average Removal Efficiencies, any Unit-specific 12-Month Rolling Average Removal Efficiencies, System-Wide Annual Tonnage Limitations, System-Wide Ozone Season Tonnage Limitations, Potomac River Annual or Ozone Season Tonnage Limitations, or System-Wide Ozone Season Emission Rate, within ten (10) business days of when NRG knew or

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	should have known of any such violation. In this report, NRG shall explain the cause or causes of the violation and all measures taken or to be taken by NRG to prevent such violations in the future. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 91]** 23. Each NRG report shall be signed by NRG's Director, Environmental Safety and Health, NRG Mid-Atlantic, LLC, or in his or her absence, the President of NRG Mid-Atlantic, LLC, or higher ranking official, and shall contain the following certification: "This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or the direction and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate, and complete. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States." **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 92]** 24. If any Allowances are surrendered to any non-profit third party, in accordance with this Consent Decree, the third party's certification shall be signed by a managing officer of the third party and shall contain the following language: "I certify under penalty of law that [name of third party] will not sell, trade, or otherwise exchange any of the [NO_X, SO_2, or Mercury] Allowances and will not use any of the Allowances to meet any obligation imposed by an environmental law. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States." **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 93]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV-1b		
ENHANCED MONITORING		
Electrostatic Precipitator (ESP) for UNIT 1 (Bypass Stack only)		
Applicable Requirement	**PM:** Emission limit: 0.100 pounds particulate matter per million Btu of heat input **Opacity**: 20 percent maximum	
	Indicator #1	Indicator #2
	Opacity at Stack	ESP Secondary Power
Measurement Approach	The stack continuous opacity monitor (COM) produces 1-minute average readings, which are then used to produce 6-minute averages and block 1-hour averages	The ESP total secondary power is calculated from voltmeters reading secondary voltage and ammeters reading secondary current. Block 1-hour averages are produced from 1-minute averages.
II. Indicator Range	The opacity indicator range is a block hourly average opacity of 17.0%. When the block hourly average opacity is over 19.0%, operators must look at the second CAM indicator, ESP total secondary power.	The total ESP secondary power indicator range is a block hourly average of 417 kW. Excursions below this indicator range trigger corrective actions and reporting requirements.
III. Performance Criteria		
1. Data Representativeness	The COM was installed on the stack per 40 CFR 60, Appendix B.	The voltmeters and ammeters are part of the ESP design and included in their instrumentation.
2. AQ/QC Practices and Criteria	QA/QC per 40 CFR 60, Appendix B	Voltmeters and ammeters and checked per standard PM schedule
3. Monitoring Frequency	Opacity is monitored continuously by the continuous opacity monitoring (COM) system.	Secondary power is monitored continuously by the plant information (Pi) system.
4. Record keeping	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.
5. (i) Reporting	Report the number, duration and cause of any excursion and the corrective action taken.	Report the number, duration and cause of any excursion and the corrective action taken.
(ii) Frequency	Quarterly	Quarterly

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV-1c		
ENHANCED MONITORING		
Electrostatic Precipitator (ESP) for UNIT 2 (Bypass Stack only)		
Applicable Requirement	**PM:** Emission limit: 0.100 pounds per million Btu of heat input 0.140 pounds per million Btu of heat input. (March 2008 Consent Decree limit supersedes) **Opacity**: 20 percent maximum	
I. Indicator	Indicator #1	Indicator #2
	Opacity at Stack	ESP Third Field Secondary Power
Measurement Approach	The stack continuous opacity monitor (COM) produces 1-minute average readings, which are then used to produce 6-minute averages and block 1-hour averages	The ESP third field secondary power is calculated from voltmeters reading secondary voltage and ammeters reading secondary current. Block 1-hour averages are produced from 1-minute averages.
II. Indicator Range	The opacity indicator range is a block hourly average opacity of 18%. When the block hourly average opacity is over 18%, operators must look at the second CAM plan indicator, ESP third field secondary power	The ESP third field secondary power indicator range is a block hourly average of 92 kW. Excursions below this indicator range trigger corrective actions and reporting requirements.
III. Performance Criteria		
1. Data Representativeness	The COM was installed on the stack per 40 CFR 60, Appendix B	The voltmeters and ammeters are part of the ESP design and included in their instrumentation.
2. AQ/QC Practices and Criteria	QA/QC per 40 CFR 60, Appendix B	Voltmeters and ammeters are checked per standard PM schedule.
3. Monitoring Frequency	Opacity is monitored continuously by the continuous opacity monitoring system (COM).	Secondary power is monitored continuously by the plant information (Pi) system.
4. Record keeping	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.
5. (i) Reporting	Report the number, duration and cause of any excursion and the corrective action taken.	Report the number, duration and cause of any excursion and the corrective action taken.
(ii) Frequency	Quarterly	Quarterly

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1d – CPCN 9085: FGD System	
1d.0	**Emissions Unit Number(s): FGD System for F1 and F2** A wet flue gas desulfurization (FGD) system is installed on both Units 1 and 2. The FGD system controls acid gases (SO_2 & HCl) and Hg. The FGD system uses limestone slurry with in-situ forced oxidation, producing gypsum by-product. The FGD system consists of the following sub-systems: limestone unloading and storage facilities; limestone slurry preparation and feed; SO_2 absorption tower; gypsum dewatering and loading facilities and three (3) emergency diesel engines (two quench pump and one fire pump). **[CPCN: 9085]**
1d.1	**Applicable Standards/Limits:** **[Reference: CPCN 9085: II. Applicable Air Quality Regulations]** 10. The Morgantown facility is subject to all applicable, federally enforceable State air quality requirements including, but not limited to, the following regulations: a) **COMAR 26.11.01.10**–Requires NRG to install Continuous Opacity Monitoring (COM) systems to monitor opacity and Continuous Emissions Monitoring (CEM) systems (COMAR 26.11.01.11) to monitor SO_2, NO_X and either O_2 or CO_2 from each boiler, and to meet applicable CEM installation, certification, operating, monitoring, testing, and, malfunction requirements in 40 CFR Part 60, 40 CFR Part 75, and 40 CFR Part 51, Appendix 51, Appendix P, §3.3-3.8 or §3.9 as incorporated by reference. c) **COMAR 26.11.06.02C(1)-**Prohibits NRG from causing or permitting the discharge of emissions from any installation or building (i.e., confined, non-fuel-burning equipment sources) other than water in an uncombined form, which are greater than 20 percent opacity. d) **COMAR 26.11.06.03B(1)-**Prohibits NRG from discharging into the outdoor atmosphere from any confined source (i.e., the limestone, gypsum and other material storage silos) particulate matter in excess of 0.05 grains per dry standard cubic feet (gr/dscf)(115 mg/dscm). e) **COMAR 26.11.06.03C(1)-**Prohibits NRG from causing or permitting emissions from an unconfined (fugitive) source without taking reasonable precautions to prevent particulate matter from becoming airborne, f) **COMAR 26.11.06.03D**-Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For the unloading, loading and transfer of the materials included at the Morgantown APC Project (limestone, gypsum, and sorbent to control sulfuric acid mist emissions), these

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1d – CPCN 9085: FGD System	
	reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer: i) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land. ii) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts. iii) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations. iv) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution. Alternate means may be employed to achieve the same results as would covering the vehicles. v) The paving of roadways and their maintenance in clean condition. vi) The prompt removal from paved streets of earth or other material which has been transported there by trucks or earth moving equipment or erosion by water. g) **COMAR 26.11.06.12**-Prohibits NRG from constructing, modifying or operating or causing to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source as defined in COMAR 26.11.01.01C, which results in violation of provisions of 40 CFR Part 60. h) **COMAR 26.11.09.03**-When determining compliance with applicable particulate matter emission standards from boiler stacks (concentration requirement expressed as grains per standard cubic foot or milligrams per cubic meter of dry exhaust gas), NRG shall correct to 50 percent excess air. In addition, when determining compliance with a mass-based particulate matter emission limit expressed as pounds per million Btu (lb/MMBtu), NRG shall use the procedures for determining particulate matter emission rates in 40 CFR Part 60 Appendix A, Method 19. i) **COMAR 26.11.09.05A(1)-**Prohibits NRG from discharging emissions from fuel burning equipment, other than water in an uncombined form, which is greater than 20 percent opacity. Exceptions: limitations do not apply during times of load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment which are not greater than 40 percent opacity and do not occur for more than six consecutive minutes in any 60 minute period. j) **COMAR 26.11.09.05E(2) and E(3)**-Prohibits the discharge of emissions from the quench pump engines, when operating at idle, greater than 10 percent opacity, and when in operating mode, greater than 40 percent opacity. Exceptions: (i) limitations when operating at idle do not apply for a period of two consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system; (ii) limitations when operating at idle do not apply to emissions resulting

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1d – CPCN 9085: FGD System	
	directly from cold engine start-up and warm-up for the following maximum periods: engines that are idled continuously when not in service: 30 minutes, and all other engines: 15 minutes; (iii) limitations when in idle and operating modes do not apply while maintenance, repair, or testing is being performed by qualified mechanics. k) **COMAR 26.11.009.06A(1)**-Prohibits NRG from causing or permitting particulate matter emissions from Morgantown Units 1 and 2 in excess of 0.14 lb/MMBtu. (Figure 1 of COMAR 26.11.09.06A). [*Compliance with the March 6, 2008 Consent Decree PM Emission limit 0.100 mmBtu/hr indicates compliance with COMAR 26.11.09.06A]*] l) **COMAR 26.11.09.07A(1)(a)**-Prohibits NRG from burning coal that would result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu actual heat input. m) **COMAR 26.11.09.07A(1)(c)-**Prohibits NRG from burning distillate fuel oil in the quench pumps with a sulfur content greater than 0.3 percent. n) **COMAR 26.11.27**-Requires NRG to comply with the applicable emissions limitations for NO_X, SO_2 and mercury as well as the monitoring and record keeping requirements contained in COMAR 26.11.27. **[Reference: CPCN 9085: III. New Source Performance Standard (NSPS) Requirements]** 12. The equipment at Morgantown identified in [CPCN 9085] Table 1a, Table 1b and Table 1c are subject to NSPS 40 CFR Part 60, Subpart OOO-Standards of Performance for Non-metallic Mineral Processing Plants (40 CFR §60.670) and the associated notification and testing requirements of 40 CFR §60.7, §60.8 and §60.11 whose requirements include, but are not limited to the following: a) NRG shall not cause to be discharged into the atmosphere gases from any transfer point along the belt conveyor systems, or any other stack, particulate matter in concentrations greater than 0.022 gr/dscf or opacity that is greater than seven percent. b) NRG shall not cause to be discharged into the atmosphere from any transfer point along the belt conveyor system or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity. If the transfer point is totally enclosed in a building or enclosure, then there are no fugitive emissions allowed from the building unless they are directed through a vent, which is limited by Condition 12(a). c) NRG shall not cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity d) NRG shall not cause to be discharged into the atmosphere from any baghouse that controls emissions from only an individual enclosed storage bin, stack emissions which exhibit greater than seven percent opacity.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1d – CPCN 9085: FGD System	
	13. Each of the three diesel engine-driven (two quench pumps and one fire pump) are subject to New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR §60.4205) and the associated fuel, monitoring, compliance, testing, notification, reporting and record keeping requirements (40 CFR §60.4200 et seq.), and related applicable provisions of 40 CFR §60.7 and §60.8. **[Reference: CPCN 9085: IV. Operational Restrictions and Limitations]** 14. NRG shall: a) Install, maintain and operate the new limestone, gypsum, sulfuric acid mist (SAM) control sorbent, and hydrated lime unloading, storage, transfer and distribution equipment and systems with associated particulate matter control methods listed in [CPCN 9085] Table 1a-c and Table 2 in accordance with original design criteria, vendor recommendations and best management practices, and in such a manner as to ensure full and continuous compliance with all applicable regulations. b) Update Morgantown's Best Management Practices (BMP) Plan, as required by the facility's Part 70 Operating Permit (Permit No. 24-017-0014), to include the new limestone, gypsum, SAM control sorbent, and hydrated lime transfer storage and distribution equipment. The Plan shall document what reasonable precautions will be used to prevent particulate matter from this equipment from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. *Completed.* c) At least 60 days prior to replacing, elimination or in any manner changing any of the particulate control systems listed in [CPCN 9085] Table 1a-c and Table 2, NRG shall submit a request to ARMA to amend the facility's BMP Plan. The request shall specify the proposed change(s) in emissions control systems; shall demonstrate that the change(s) will not result in any increases in any pollutants; and update [CPCN 9085] Table 1a-c and Table 2 of these conditions. NRG shall be authorized to make the changes proposed in the written request unless ARMA denies the request within 30 days of the receipt of the request. **[Reference: CPCN 9085: Miscellaneous]** 86. Sulfuric acid mist emissions from Units 1 and 2 combined shall not exceed 1,194 tons per year (tpy) in any rolling 12-month cumulative period.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1d – CPCN 9085: FGD System	
	a. Mirant shall maintain records of monthly and 12-month rolling total emissions of SAM from Units 1 and 2 and submit to ARMA semi-annually by July 30 for the period January 1 through June 30, and by January 30 for the period July 1 through 31 December; b. At least 30 days prior to the anticipated date of start-up of the APC systems, Mirant shall provide MDE and the PSC with a plan outlining a methodology for determining SAM emissions from Units 1 and 2. Upon approval from ARMA, Mirant shall implement the SAM emissions estimating protocol.
1d.2	**Testing Requirements:** **[Reference: CPCN 9085: V. Testing]** 17. In accordance with COMAR 26.11.01.04A, NRG may be required by ARMA to conduct additional stack tests to determine compliance with COMAR Title 26, Subtitle 11. This testing will be done at a reasonable time.
1d.3	**Monitoring Requirements:** **[Reference: CPCN 9085: VI. Monitoring]** 18. NRG shall operate CEM systems for SO_2, NO_X and CO_2 or O_2, under 40 CFR part 75 and COM systems for Morgantown Unit 1 and 2. The Permittee shall calculate the Unit's SAM emissions based on the empirical SAM formation relationship found in Estimating Total Sulfuric Acid Emissions from Stationary Power Plants: Revision 3 (Southern Company 2005), the SAM emission stack tests results required by the CPCN 9085 Condition 87 (40 CFR 60, Appendix A, Method 8), the actual unit heat input and the actual fuel sulfur content. The Permittee shall use the following formula using the SAM stack test results adjusted by the average monthly fuel sulfur content and monthly heat input to calculate the monthly and 12 month rolling SAM emissions: Monthly SAM Emissions (tons/month) = SAM Stack test Rate (lbs/mmBtu) x Coal Sulfur Adjustment Factor (average Monthly Coal Sulfur Content/Stack Test Coal Sulfur Content)/2000 lbs/ton **[Reference: Letter dated Dec 10, 2009 to MDE from Mirant Mid Atlantic LLC: Re: CPCN Case 9085, Condition 86b. – Method to Determine Sulfur Acid Mist Emissions from Morgantown Units 1 and 2]** See State Only requirements of COMAR 26.11.09.05C.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1d – CPCN 9085: FGD System	
1d.4	**<u>Record Keeping Requirements</u>:** **[Reference: CPCN 9085: VII. Recordkeeping and Reporting]** 24. All records and logs required by this CPCN shall be maintained at the facility for at least five years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of ARMA.
1d.5	**<u>Reporting Requirements</u>:** **[Reference: CPCN 9085: VII. Recordkeeping and Reporting]** 20. NRG shall submit to ARMA and US EPA written reports of the results of all performance test conducted to demonstrate compliance with the standards set forth in applicable NSPS within 60 days of completion of the tests. ***(Completed)*** 21. Final results of the performance tests required by this CPCN must be submitted to ARMA within 60 days after completion of the test. Analytical data shall be submitted to ARMA directly from the emission testing company. ***(Completed)*** 25. All air quality notification and reports required by this CPCN shall be submitted to: Administrator, Compliance Program Air and Radiation Management Administration 1800 Washington Boulevard Baltimore, Maryland 21230 26. All notification and reports required by 40 CFR 60 Subpart OOO and Subpart IIII, unless specified otherwise, shall be submitted to: Regional Administrator, US EPA Region III 1650 Arch Street Philadelphia, Pennsylvania 19103-2029

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Please Note: On June 29, 2015, the Supreme Court issued an opinion in *Michigan et al v. Environmental Protection Agency*. The Supreme Court's decision remands the MATS rule to EPA and returns the matter to the U.S. Court of Appeals for the D.C. Circuit for further proceedings. As of the issuance of this permit, the MATS rule is in effect. The Supreme Court decision in *Michigan* requires the EPA to undertake additional proceedings for the limited purpose of evaluating costs for its "appropriate and necessary" finding which preceded the MATS rule. Until and unless the MATS rule is stayed and/or vacated by the D.C. Circuit, MATS related conditions in the Title V permit apply. If the MATS rule is stayed and/or vacated or partially stayed and/or vacated then the affected conditions in the Title V permit will be revised/removed accordingly.

Table IV – 1e – MACT Subpart UUUUU	
1e.0	**Emissions Unit Number(s): F1 and F2 Boilers Cont'd** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)
1e.1	**Applicable Standards/Limits:** Control of HAPs Emissions **40 CFR Part 63, Subpart UUUUU—National Emission Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units.** **§63.9980** - What is the purpose of this subpart? This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from coal- and oil-fired electric utility steam generating units (EGUs) as defined in §63.10042 of this subpart. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations. *Electric utility steam generating unit (EGU) means a fossil fuel-fired combustion unit of more than 25 megawatts electric (MWe) that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 MWe output to any utility power distribution system for sale is considered an electric utility steam generating unit.* **§63.9981** - Am I subject to this subpart? "You are subject to this subpart if you own or operate a **coal-fired** EGU or an oil-fired EGU as defined in §63.10042 of this subpart." **§63.9984** - When do I have to comply with this subpart? "(b) If you have **an existing** EGU, you must comply with this subpart no later than **April 16, 2015**."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU

"(c) You must meet the notification requirements in §63.10030 according to the schedule in §63.10030 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart."
"(f) You must demonstrate that compliance has been achieved, by conducting the required performance tests and other activities, no later than 180 days after the applicable date in paragraph (a), (b), (c), (d), or (e) of this section."

§63.9991 - What emission limitations, work practice standards, and operating limits must I meet?
"(a) You must meet the requirements in paragraphs (a)(1) and (2) of this section. You must meet these requirements at all times.
(1) You must meet each emission limit and work practice standard in Table 1 through 3 to this subpart that applies to your EGU, for each EGU at your source, except as provided under §63.10009.
(2) *Not Applicable*.
(b) As provided in §63.6(g), the Administrator may approve use of an alternative to the work practice standards in this section.
(c) You may use the alternate SO_2 limit in Tables 1 and **2** to this subpart only if your EGU:
(1) Has a system using wet or dry flue gas desulfurization technology and SO_2 continuous emissions monitoring system (CEMS) installed on the unit; and
(2) At all times, you operate the wet or dry flue gas desulfurization technology installed on the unit consistent with §63.10000(b)."

Table 2 to Subpart UUUUU of Part 63—Emission Limits for Existing EGUs
As stated in §63.9991, you must comply with the following applicable emission limits:[1]

If your EGU is in this subcategory...	For the following pollutants ...	You must meet the following emission limits and work practice standards ...	Using these requirements, as appropriate (e.g., specified sampling volume or test run duration) and limitations with the test methods in Table 5...
1. Coal-fired unit not low rank virgin coal	a. Filterable particulate matter (**PM**)	3.0E-2 lb/MMBtu or 3.0E-1 lb/MWh.[2]	Collect a minimum of 1 dscm per run. **Please Note: PM CEMs will be used.**
	b. Hydrogen chloride (**HCl**)	2.0E-3 lb/MMBtu or 2.0E-2 lb/MWh.	For Method 26A, collect a minimum of 0.75 dscm per run; for Method 26, collect a minimum of 120 liters per run.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU

			For ASTM D6348-03[3] or Method 320, sample for a minimum of 1 hour.
	OR		
	Sulfur dioxide (**SO_2**)[4]	2.0E-1 lb/MMBtu or 1.5E0 lb/MWh.	SO_2 CEMS. **Please Note: SO_2 will be used as a surrogate for HCl pursuant to §63.10000(c1)(v).**
	c. Mercury (**Hg**)	1.2E0 lb/TBtu or 1.3E-2 lb/GWh	LEE Testing for 30 days with 10 days maximum per Method 30B run or **Hg CEMS** or sorbent trap monitoring system only.

[1] For LEE emissions testing for total PM, total HAP metals, individual HAP metals, HCl, and HF, the required minimum sampling volume must be increased nominally by a factor of two.
[2] Gross electric output.
[3] Incorporated by reference, see §63.14.
[4] You may not use the alternate SO_2 limit if your EGU does not have some form of FGD system and SO_2 CEMS installed.

General Compliance Requirements

§63.10000 - What are my general requirements for complying with this subpart?

"(a) You must be in compliance with the emission limits and operating limits in this subpart. These limits apply to you at all times except during periods of startup and shutdown; however, for **coal-fired**, liquid oil-fired, or solid oil-derived fuel-fired EGUs, you are required to meet the work practice requirements in Table 3 to this subpart during periods of startup or shutdown.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the EPA Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source."

"(c)(1) For **coal-fired** units, IGCC units, and solid oil-derived fuel-fired units, initial performance testing is required for all pollutants, to demonstrate compliance with the applicable emission limits.

(i) *Not Applicable.*

(ii) *Not Applicable.*

(iii) *Not Applicable*.

(iv) If your **coal-fired** or solid oil derived fuel-fired EGU or IGCC EGU does not qualify as a LEE for total non-mercury HAP metals, individual

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	non-mercury HAP metals, or filterable particulate matter (PM), you must demonstrate compliance through an initial performance test and you must monitor continuous performance through either use of a particulate matter continuous parametric monitoring system (PM CPMS), a **PM CEMS**, or, for an existing EGU, compliance performance testing repeated quarterly. (v) If your **coal-fired** or solid oil-derived fuel-fired EGU does not qualify as a LEE for hydrogen chloride (HCl), you may demonstrate initial and continuous compliance through use of an HCl CEMS, installed and operated in accordance with Appendix B to this subpart. As an alternative to HCl CEMS, you may demonstrate initial and continuous compliance by conducting an initial and periodic quarterly performance stack test for HCl. **If your EGU uses wet or dry flue gas desulfurization technology (this includes limestone injection into a fluidized bed combustion unit), you may apply a second alternative to HCl CEMS by installing and operating a sulfur dioxide (SO_2) CEMS installed and operated in accordance with part 75 of this chapter to demonstrate compliance with the applicable SO_2 emissions limit.** (vi) If your **coal-fired** or solid oil-derived fuel-fired EGU does not qualify as a LEE for Hg, you must demonstrate initial and continuous compliance through use of **a Hg CEMS** or a sorbent trap monitoring system, in accordance with appendix A to this subpart. (A) *Not Applicable*. (B) *Not Applicable*. "(d)(1) If 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 and submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation (where applicable) of your CMS. This requirement also applies to you if you petition the Administrator for alternative monitoring parameters under §63.8(f). **This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing monitoring plans that apply to CEMS and CPMS prepared under appendix B to part 60 or part 75 of this chapter, and that meet the requirements of §63.10010**. Using the process described in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in this paragraph of this section and, if approved, include those in your site-specific monitoring plan. The monitoring plan must address the provisions in paragraphs (d)(2) through (5) of this section." "d(4) You must operate and maintain the CMS according to the site-specific monitoring plan."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	"(e) As part of your demonstration of continuous compliance, you must perform periodic tune-ups of your EGU(s), according to §63.10021(e)." "(f) You are subject to the requirements of this subpart for at least 6 months following the last date you met the definition of an EGU subject to this subpart (e.g., 6 months after a cogeneration unit provided more than one third of its potential electrical output capacity and more than 25 megawatts electrical output to any power distribution system for sale). You may opt to remain subject to the provisions of this subpart beyond 6 months after the last date you met the definition of an EGU subject to this subpart, unless you are a solid waste incineration unit subject to standards under CAA section 129 (e.g., 40 CFR Part 60, Subpart CCCC (New Source Performance Standards (NSPS) for Commercial and Industrial Solid Waste Incineration Units, or Subpart DDDD (Emissions Guidelines (EG) for Existing Commercial and Industrial Solid Waste Incineration Units). Notwithstanding the provisions of this subpart, an EGU that starts combusting solid waste is immediately subject to standards under CAA section 129 and the EGU remains subject to those standards until the EGU no longer meets the definition of a solid waste incineration unit consistent with the provisions of the applicable CAA section 129 standards." "(j) All air pollution control equipment necessary for compliance with any newly applicable emissions limits which apply as a result of the cessation or commencement or recommencement of operations that cause your EGU to meet the definition of an EGU subject to this subpart must be installed and operational as of the date your source ceases to be or becomes subject to this subpart. (k) All monitoring systems necessary for compliance with any newly applicable monitoring requirements which apply as a result of the cessation or commencement or recommencement of operations that cause your EGU to meet the definition of an EGU subject to this subpart must be installed and operational as of the date your source ceases to be or becomes subject to this subpart. All calibration and drift checks must be performed as of the date your source ceases to be or becomes subject to this subpart. You must also comply with provisions of §§63.10010, 63.10020, and 63.10021 of this subpart. Relative accuracy tests must be performed as of the performance test deadline for PM CEMS, if applicable. Relative accuracy testing for other CEMS need not be repeated if that testing was previously performed consistent with CAA section 112 monitoring requirements or monitoring requirements under this subpart. (l) On or before the date an EGU is subject to this subpart, you must install, certify, operate, maintain, and quality assure each monitoring system necessary for demonstrating compliance with the work practice

Table IV – 1e – MACT Subpart UUUUU

standards for PM or non-mercury HAP metals during startup periods and shutdown periods. You must collect, record, report, and maintain data obtained from these monitoring systems during startup periods and shutdown periods."

Table 3 to Subpart UUUUU of Part 63—Work Practice Standards
As stated in §§63.9991, you must comply with the following applicable work practice standards:

If your EGU is...	You must meet the following...
1. An **existing** EGU	Conduct a tune-up of the EGU burner and combustion controls at least each 36 calendar months, or each 48 calendar months if neural network combustion optimization software is employed, as specified in §63.10021(e).
3. A **coal-fired**, liquid oil-fired (excluding limited-use liquid oil-fired subcategory units), or solid oil-derived fuel-fired EGU **during startup** **Note:** Morgantown selected option 1.	You have the option of complying using either of the following work practice standards. (1) If you choose to comply using paragraph (1) of the definition of "startup" in §63.10042, you must operate all CMS during startup. Startup means either the first-ever firing of fuel in a boiler for the purpose of producing electricity, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on site use). For startup of a unit, you must use clean fuels as defined in §63.10042 for ignition. Once you convert to firing coal, residual oil, or solid oil-derived fuel, you must engage all of the applicable control technologies except dry scrubber and SCR. You must start your dry scrubber and SCR systems, if present, appropriately to comply with relevant standards applicable during normal operation. You must comply with all applicable emissions limits at all times except for periods that meet the applicable definitions of startup and shutdown in this subpart. You must keep records during startup periods. You must provide reports concerning activities and startup periods, as specified in §63.10011(g) and §63.10021(h) and (i).
	(2) If you choose to comply using paragraph (2) of the definition of "startup" in §63.10042, you must operate all CMS during startup. You must also collect appropriate data, and you must calculate the pollutant emission rate for each hour of startup.
	For startup of an EGU, you must use one or a combination of the clean fuels defined in §63.10042 to the maximum extent possible throughout the startup period. You must have sufficient clean fuel capacity to engage and operate your PM control device within one hour of adding coal, residual oil, or solid oil-derived fuel to the unit. You must meet the startup period work practice requirements as identified in

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU

	§63.10020(e).
	Once you start firing coal, residual oil, or solid oil-derived fuel, you must vent emissions to the main stack(s). You must comply with the applicable emission limits within 4 hours of start of electricity generation. You must engage and operate your particulate matter control(s) within 1 hour of first firing of coal, residual oil, or solid oil-derived fuel.
	You must start all other applicable control devices as expeditiously as possible, considering safety and manufacturer/supplier recommendations, but, in any case, when necessary to comply with other standards made applicable to the EGU by a permit limit or a rule other than this Subpart that require operation of the control devices.
	You must collect monitoring data during startup periods, as specified in §63.10020(a) and (e). You must keep records during startup periods, as provided in §§63.10032 and 63.10021(h). Any fraction of an hour in which startup occurs constitutes a full hour of startup. You must provide reports concerning activities and startup periods, as specified in §§63.10011(g), 63.10021(i), and 63.10031.
4. A **coal-fired**, liquid oil-fired (excluding limited-use liquid oil-fired subcategory units), or solid oil-derived fuel-fired EGU **during shutdown**	You must operate all CMS during shutdown. You must also collect appropriate data, and you must calculate the pollutant emission rate for each hour of shutdown. While firing coal, residual oil, or solid oil-derived fuel during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices and continue to operate those control devices after the cessation of coal, residual oil, or solid oil-derived fuel being fed into the EGU and for as long as possible thereafter considering operational and safety concerns. In any case, you must operate your controls when necessary to comply with other standards made applicable to the EGU by a permit limit or a rule other than this Subpart and that require operation of the control devices.
	If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the clean fuels defined in §63.10042 and must be used to the maximum extent possible.
	You must comply with all applicable emission limits at all times except during startup periods and shutdown periods at which time you must meet this work practice. You must collect monitoring data during shutdown periods, as specified in §63.10020(a). You must keep records during shutdown periods, as provided in §§63.10032 and 63.10021(h). Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown. You must provide reports concerning activities and shutdown periods, as specified in

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU		
		§§63.10011(g), 63.10021(i), and 63.10031.
1e.2	**Testing Requirements:** Control of HAPs Emissions **Testing and Initial Compliance Requirements** **§63.10005** - What are my initial compliance requirements and by what date must I conduct them? (a) *General requirements.* For each of your affected EGUs, you must demonstrate initial compliance with each applicable emissions limit in Table 1 or **2** of this subpart through performance testing. Where two emissions limits are specified for a particular pollutant (e.g., a heat input-based limit in lb/MMBtu and an electrical output-based limit in lb/MWh), you may demonstrate compliance with either emission limit. For a particular compliance demonstration, you may be required to conduct one or more of the following activities in conjunction with performance testing: collection of hourly electrical load data (megawatts); establishment of operating limits according to §63.10011 and Tables 4 and 7 to this subpart; and CMS performance evaluations. In all cases, you must demonstrate initial compliance no later than the applicable date in paragraph (f) of this section for tune-up work practices for existing EGUs, in §63.9984 for other requirements for **existing** EGUs, and in paragraph (g) of this section for all requirements for new EGUs. (1) To demonstrate initial compliance with an applicable emissions limit in Table 1 or **2** to this subpart using stack testing, the initial performance test generally consists of three runs at specified process operating conditions using approved methods. If you are required to establish operating limits (see paragraph (d) of this section and Table 4 to this subpart), you must collect all applicable parametric data during the performance test period. Also, if you choose to comply with an electrical output-based emission limit, you must collect hourly electrical load data during the test period. (2) To demonstrate initial compliance using either a CMS that measures HAP concentrations directly (*i.e.,* an **Hg**, HCl, or HF **CEMS**, or a sorbent trap monitoring system) or an **SO_2 or PM CEMS**, the initial performance test consists of 30- (or, if emissions averaging for Hg is used, 90-) boiler operating days of data collected by the initial compliance demonstration date specified in §63.9984(f) with the certified monitoring system. Pollutant emission rates measured during startup periods and shutdown period (as defined in §63.10042) are not to be included in the compliance demonstration, except as otherwise provided in §63.10000(c)(1)(vi)(B) and paragraph (a)(2)(iii) of this section. (i) The 30- (or, if applicable, 90-) boiler operating day CMS performance test must demonstrate compliance with the applicable Hg, HCl, HF, PM, or

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	SO_2 emissions limit in Table 1 or **2** to this subpart. (ii) You must collect hourly data from auxiliary monitoring systems (i.e., stack gas flow rate, CO_2, O_2, or moisture, as applicable) during the performance test period, in order to convert the pollutant concentrations to units of the standard. If you choose to comply with an electrical output-based emission limit, you must also collect hourly electrical load data during the performance test period. (iii) For a group of affected units that are in the same subcategory, are subject to the same emission standards, and share a common stack, if you elect to demonstrate compliance by monitoring emissions at the common stack, startup and shutdown emissions (if any) that occur during the 30-(or, if applicable, 90-) boiler operating day performance test must either be excluded from or included in the compliance demonstration as follows: (A) If one of the units that shares the stack either starts up or shuts down at a time when none of the other units is operating, you must exclude all pollutant emission rates measured during the startup or shutdown period, unless you are using a sorbent trap monitoring system to measure Hg emissions and have elected to include startup and shutdown emissions in the compliance demonstrations; (B) If all units that are currently operating are in the startup or shutdown mode, you must exclude all pollutant emission rates measured during the startup or shutdown period, unless you are using a sorbent trap monitoring system to measure Hg emissions and have elected to include startup and shutdown emissions in the compliance demonstrations; or (C) If any unit starts up or shuts down at a time when another unit is operating, and the other unit is not in the startup or shutdown mode, you must include all pollutant emission rates measured during the startup or shutdown period in the compliance demonstrations. (b) *Performance testing requirements.* If you choose to use performance testing to demonstrate initial compliance with the applicable emissions limits in Tables 1 and **2** to this subpart for your EGUs, you must conduct the tests according to §63.10007 and Table 5 to this subpart. For the purposes of the initial compliance demonstration, you may use test data and results from a performance test conducted prior to the date on which compliance is required as specified in §63.9984, provided that the following conditions are fully met: (1) For a performance test based on stack test data, the test was conducted no more than 12 calendar months prior to the date on which compliance is required as specified in §63.9984; (2) For a performance test based on data from a certified CEMS or sorbent trap monitoring system, the test consists of all valid CMS data recorded in the 30 boiler operating days immediately preceding that date;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	(3) The performance test was conducted in accordance with all applicable requirements in §63.10007 and Table 5 to this subpart; (4) A record of all parameters needed to convert pollutant concentrations to units of the emission standard (e.g., stack flow rate, diluent gas concentrations, hourly electrical loads) is available for the entire performance test period; and (5) For each performance test based on stack test data, you certify, and keep documentation demonstrating, that the EGU configuration, control devices, and fuel(s) have remained consistent with conditions since the prior performance test was conducted. (c) *Not Applicable*. (d) *CMS requirements.* If, for a particular emission or operating limit, you are required to (or elect to) demonstrate initial compliance using a continuous monitoring system, the CMS must pass a performance evaluation prior to the initial compliance demonstration. If a CMS has been previously certified under another state or federal program and is continuing to meet the on-going quality-assurance (QA) requirements of that program, then, provided that the certification and QA provisions of that program meet the applicable requirements of §§63.10010(b) through (h), an additional performance evaluation of the CMS is not required under this subpart. (1) For an affected **coal-fired**, solid oil-derived fuel-fired, or liquid oil-fired EGU, you may demonstrate initial compliance with the applicable SO_2 , HCl, or HF emissions limit in Table 1 or **2** to this subpart through use of an SO_2 , HCl, or HF CEMS installed and operated in accordance with part 75 of this chapter or Appendix B to this subpart, as applicable. You may also demonstrate compliance with a filterable PM emission limit in Table 1 or **2** to this subpart through use of a **PM CEMS** installed, certified, and operated in accordance with §63.10010(i). Initial compliance is achieved if the arithmetic average of 30-boiler operating days of quality-assured CEMS data, expressed in units of the standard (see §63.10007(e)), meets the applicable SO_2, PM, HCl, or HF emissions limit in Table 1 or 2 to this subpart. Use Equation 19-19 of Method 19 in appendix A-7 to part 60 of this chapter to calculate the 30-boiler operating day average emissions rate. (NOTE: For this calculation, the term E_{hj} in Equation 19-19 must be in the same units of measure as the applicable HCl or HF emission limit in Table 1 or 2 to this subpart). (2) *Not Applicable*. (3) For affected EGUs that are either required to or elect to demonstrate initial compliance with the applicable Hg emission limit in Table 1 or **2** of this subpart using **Hg CEMS** or sorbent trap monitoring systems, initial compliance must be demonstrated no later than the applicable date specified in §63.9984(f) for **existing** EGUs and in paragraph (g) of this

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	section for new EGUs. Initial compliance is achieved if the arithmetic average of 30-boiler operating days of quality-assured CEMS (or sorbent trap monitoring system) data, expressed in units of the standard (see section 6.2 of appendix A to this subpart), meets the applicable Hg emission limit in Table 1 or 2 to this subpart." "(e) *Tune-ups.* All affected EGUs are subject to the work practice standards in Table 3 of this subpart. As part of your initial compliance demonstration, you must conduct a performance tune-up of your EGU according to §63.10021(e)." "(f) For existing affected sources a tune-up may occur prior to April 16, 2012, so that existing sources without neural networks have up to 42 calendar months (3 years from promulgation plus 180 days) or, in the case of units employing neural network combustion controls, up to 54 calendar months (48 months from promulgation plus 180 days) after the date that is specified for your source in §63.9984 and according to the applicable provisions in §63.7(a)(2) as cited in Table 9 to this subpart to demonstrate compliance with this requirement. If a tune-up occurs prior to such date, the source must maintain adequate records to show that the tune-up met the requirements of this standard." (h) *Not Applicable*. "(j) Startup and shutdown for coal-fired or solid oil derived-fired units. You must follow the requirements given in Table 3 to this subpart. (k) You must submit a Notification of Compliance Status summarizing the results of your initial compliance demonstration, as provided in §63.10030." **§63.10006** - When must I conduct subsequent performance tests or tune-ups? "(a) For liquid oil-fired, solid oil-derived fuel-fired and **coal-fired** EGUs and IGCC units using PM CPMS to monitor continuous performance with an applicable emission limit as provided for under §63.10000(c), you must conduct all applicable performance tests according to Table 5 to this subpart and §63.10007 at least every year." "(c) Except where paragraphs (a) or (b) of this section apply, or where you install, certify, and operate a **PM CEMS** to demonstrate compliance with a filterable PM emissions limit, for liquid oil-, solid oil-derived fuel-, **coal-fired** and IGCC EGUs, you must conduct all applicable periodic emissions tests for filterable PM, individual, or total HAP metals emissions according to Table 5 to this subpart, §63.10007, and §63.10000(c), except as otherwise provided in §63.10021(d)(1)." "(f) Unless you follow the requirements listed in paragraphs (g) and (h) of this section, performance tests required at least every 3 calendar years must be completed within 35 to 37 calendar months after the previous

Table IV – 1e – MACT Subpart UUUUU

performance test; performance tests required at least every year must be completed within 11 to 13 calendar months after the previous performance test; and performance tests required at least quarterly must be completed within 80 to 100 calendar days after the previous performance test, except as otherwise provided in §63.10021(d)(1)."

"(j) You must report the results of performance tests and performance tune-ups within 60 days after the completion of the performance tests and performance tune-ups. The reports for all subsequent performance tests must include all applicable information required in §63.10031."

Table 5 to Subpart UUUUU of Part 63—Performance Testing Requirements

As stated in §63.10007, you must comply with the following requirements for performance testing for **existing**, new or reconstructed affected sources:[1]

To conduct a performance test for the following pollutant...	Using...	You must perform the following activities, as applicable to your input- or output-based emission limit...	Using[2]...
1. Filterable Particulate matter (**PM**)	**PM CEMS**	a. Install, certify, operate, and maintain the PM CEMS	Performance Specification 11 at Appendix B to part 60 of this chapter and Procedure 2 at Appendix F to Part 60 of this chapter.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and §§63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see §63.10007(e)).
3. Hydrogen chloride (**HCl**) and hydrogen fluoride (**HF**)	HCl and/or HF CEMS	a. Install, certify, operate, and maintain the HCl or HF CEMS	Appendix B of this subpart.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and §§63.10010(a), (b), (c), and (d).

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU

		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see §63.10007(e)).
	Please Note: SO_2 will be used as a surrogate for HCl pursuant to §63.10000(c1)(v). See #5 SO_2 CEMS		
4. Mercury **(Hg)**	**Hg CEMS**	a. Install, certify, operate, and maintain the CEMS	Sections 3.2.1 and 5.1 of Appendix A of this subpart.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and §§63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/TBtu or lb/GWh emissions rates	Section 6 of Appendix A to this subpart.
5. Sulfur dioxide (**SO_2**)	**SO_2CEMS**	a. Install, certify, operate, and maintain the CEMS	Part 75 of this chapter and §§63.10010(a) and (f).
		b. Install, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and §§63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see §63.10007(e)).

[1]Regarding emissions data collected during periods of startup or shutdown, see §§63.10020(b) and (c) and §63.10021(h).
[2]See Tables 1 and 2 to this subpart for required sample volumes and/or sampling run times.
[3]Incorporated by reference, see §63.14.
[4]When using ASTM D6348-03, the following conditions must be met: (1) The test plan preparation and implementation in the Annexes to ASTM D6348-03, Sections A1 through A8 are mandatory; (2) For ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent (%)R must be determined for each target analyte (see Equation A5.5); (3) For the ASTM D6348-03 test data to be acceptable for a target analyte, %R must be 70% ≤R ≤130%; and (4) The %R value for each compound must be reported in the test report and all field measurements corrected with the calculated %R value for that compound using the following equation:

$$Reported\ Result = \frac{(Measured\ Concentration\ in\ Stack)}{\%R} x\,100$$

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	§63.10007 - <u>What methods and other procedures must I use for the performance tests?</u> "(a) Except as otherwise provided in this section, you must conduct all required performance tests according to §63.7(d), (e), (f), and (h). You must also develop a site-specific test plan according to the requirements in §63.7(c). (1) If you use **CEMS** (**Hg**, HCl, **SO_2**, or other) to determine compliance with a 30- (or, if applicable, 90-) boiler operating day rolling average emission limit, you must collect quality- assured CEMS data for all unit operating conditions, including startup and shutdown (see §63.10011(g) and Table 3 to this subpart), except as otherwise provided in §63.10020(b). Emission rates determined during startup periods and shutdown periods (as defined in §63.10042) are not to be included in the compliance determinations, except as otherwise provided in §§63.10000(c)(1)(vi)(B) and 63.10005(a)(2)(iii). (2) If you conduct performance testing with test methods in lieu of continuous monitoring, operate the unit at maximum normal operating load conditions during each periodic (e.g., quarterly) performance test. Maximum normal operating load will be generally between 90 and 110 percent of design capacity but should be representative of site specific normal operations during each test run. (3) For establishing operating limits with particulate matter continuous parametric monitoring system (PM CPMS) to demonstrate compliance with a PM or non Hg metals emissions limit, operate the unit at maximum normal operating load conditions during the performance test period. Maximum normal operating load will be generally between 90 and 110 percent of design capacity but should be representative of site specific normal operations during each test run. (b) You must conduct each performance test (including traditional 3-run stack tests, 30-boiler operating day tests based on CEMS data (or sorbent trap monitoring system data), and 30-boiler operating day Hg emission tests for LEE qualification) according to the requirements in Table 5 to this subpart. (c) *Not Applicable*. (d) Except for a 30-boiler operating day performance test based on CEMS (or sorbent trap monitoring system) data, where the concept of test runs does not apply, you must conduct a minimum of three separate test runs for each performance test, as specified in §63.7(e)(3). Each test run must comply with the minimum applicable sampling time or volume specified in Table 1 or 2 to this subpart. Sections 63.10005(d) and (h), respectively, provide special instructions for conducting performance tests based on CEMS or sorbent trap monitoring systems, and for conducting emission

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	tests for LEE qualification. (e) To use the results of performance testing to determine compliance with the applicable emission limits in Table 1 or 2 to this subpart, proceed as follows: (1) Except for a 30-boiler operating day performance test based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), you must use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level. (2) If the limits are expressed in lb/MMBtu or lb/TBtu, you must use the F-factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 in appendix A-7 to part 60 of this chapter. In cases where an appropriate F-factor is not listed in Table 19-2 of Method 19, you may use F-factors from Table 1 in section 3.3.5 of appendix F to part 75 of this chapter, or F-factors derived using the procedures in section 3.3.6 of appendix to part 75 of this chapter. Use the following factors to convert the pollutant concentrations measured during the initial performance tests to units of lb/scf, for use in the applicable Method 19 equations: (i) Multiply SO_2 ppm by 1.66×10^{-7}; (ii) Multiply HCl ppm by 9.43×10^{-8}; (iii) Multiply HF ppm by 5.18×10^{-8}; (iv) Multiply HAP metals concentrations (mg/dscm) by 6.24×10^{-8}; and (v) Multiply Hg concentrations (µg/scm) by 6.24×10^{-11}. (3) To determine compliance with emission limits expressed in lb/MWh or lb/GWh, you must first calculate the pollutant mass emission rate during the performance test, in units of lb/h. For Hg, if a CEMS or sorbent trap monitoring system is used, use Equation A-2 or A-3 in appendix A to this subpart (as applicable). In all other cases, use an equation that has the general form of Equation A-2 or A-3, replacing the value of K with 1.66×10^{-7} lb/scf-ppm for SO_2, 9.43×10^{-8}lb/scf-ppm for HCl (if an HCl CEMS is used), 5.18×10^{-8} lb/scf-ppm for HF (if an HF CEMS is used), or 6.24×10^{-8} lb-scm/mg-scf for HAP metals and for HCl and HF (when performance stack testing is used), and defining C_h as the average SO_2, HCl, or HF concentration in ppm, or the average HAP metals concentration in mg/dscm. This calculation requires stack gas volumetric flow rate (scfh) and (in some cases) moisture content data (see §§63.10005(h)(3) and 63.10010). Then, if the applicable emission limit is

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	in units of lb/GWh, use Equation A-4 in appendix A to this subpart to calculate the pollutant emission rate in lb/GWh. In this calculation, define $(M)_h$ as the calculated pollutant mass emission rate for the performance test (lb/h), and define $(MW)_h$ as the average electrical load during the performance test (megawatts). If the applicable emission limit is in lb/MWh rather than lb/GWh, omit the 10^3 term from Equation A-4 to determine the pollutant emission rate in lb/MWh. (f) If you elect to (or are required to) use CEMS to continuously monitor Hg, HCl, HF, SO_2, or PM emissions (or, if applicable, sorbent trap monitoring systems to continuously collect Hg emissions data), the following default values are available for use in the emission rate calculations during startup periods or shutdown periods (as defined in §63.10042). For the purposes of this subpart, these default values are not considered to be substitute data. (1) *Diluent cap values.* If you use CEMS (or, if applicable, sorbent trap monitoring systems) to comply with a heat input-based emission rate limit, you may use the following diluent cap values for a startup or shutdown hour in which the measured CO_2 concentration is below the cap value or the measured O_2 concentration is above the cap value: (i) For an IGCC EGU, you may use 1% for CO_2 or 19% for O_2. (ii) For all other EGUs, you may use 5% for CO_2 or 14% for O_2. (2) *Default electrical load.* If you use CEMS to continuously monitor Hg, HCl, HF, SO_2, or PM emissions (or, if applicable, sorbent trap monitoring systems to continuously collect Hg emissions data), the following default value is available for use in the emission rate calculations during startup periods or shutdown periods (as defined in §63.10042). For the purposes of this subpart, this default value is not considered to be substitute data. For a startup or shutdown hour in which there is heat input to an affected EGU but zero electrical load, you must calculate the pollutant emission rate using a value equivalent to 5% of the maximum sustainable electrical output, expressed in megawatts, as defined in section 6.5.2.1(a)(1) of Appendix A to part 75 of this chapter. This default electrical load is either the nameplate capacity of the EGU or the highest electrical load observed in at least four representative quarters of EGU operation. For a monitored common stack, the default electrical load is used only when all EGUs are operating (i.e., combusting fuel) are in startup or shutdown mode, and have zero electrical generation. Under those conditions, a default electrical load equal to 5% of the combined maximum sustainable electrical load of the EGUs that are operating but have a total of zero electrical load must be used to calculate the hourly electrical output-based pollutant emissions rate.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	(g) Upon request, you shall make available to the EPA Administrator such records as may be necessary to determine whether the performance tests have been done according to the requirements of this section."
1e.3	**Monitoring Requirements:** Control of HAPs Emissions **§63.10010** - What are my monitoring, installation, operation, and maintenance requirements? "(a) Flue gases from the affected units under this subpart exhaust to the atmosphere through a variety of different configurations, including but not limited to individual stacks, a common stack configuration or a main stack plus a bypass stack. For the **CEMS**, PM CPMS, and sorbent trap monitoring systems used to provide data under this subpart, the continuous monitoring system installation requirements for these exhaust configurations are as follows: (1) Single unit-single stack configurations. For an affected unit that exhausts to the atmosphere through a single, dedicated stack, you shall either install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the stack or at a location in the ductwork downstream of all emissions control devices, where the pollutant and diluents concentrations are representative of the emissions that exit to the atmosphere. (2) Unit utilizing common stack with other affected unit(s). When an affected unit utilizes a common stack with one or more other affected units, but no non-affected units, you shall either: (i) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the duct leading to the common stack from each unit; or (ii) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the common stack." "(4) Unit with a main stack and a bypass stack. If the exhaust configuration of an affected unit consists of a main stack and a bypass stack, you shall install CEMS on both the main stack and the bypass stack, or, if it is not feasible to certify and quality-assure the data from a monitoring system on the bypass stack, you shall install a CEMS only on the main stack and count bypass hours of deviation from the monitoring requirements." "(b) If you use an oxygen (O_2) or carbon dioxide (CO_2) CEMS to convert measured pollutant concentrations to the units of the applicable emissions limit, the O_2 or CO_2 concentrations shall be monitored at a location that represents emissions to the atmosphere, *i.e.,* at the outlet of the EGU, downstream of all emission control devices. You must install, certify, maintain, and operate the CEMS according to part 75 of this chapter. Use only quality-assured O_2 or CO_2 data in the emissions calculations; do not use part 75 substitute data values. (c) If you are required to use a stack gas flow rate monitor, either for

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	routine operation of a sorbent trap monitoring system or to convert pollutant concentrations to units of an electrical output-based emission standard in Table 1 or 2 to this subpart, you must install, certify, operate, and maintain the monitoring system and conduct on-going quality-assurance testing of the system according to part 75 of this chapter. Use only unadjusted, quality-assured flow rate data in the emissions calculations. Do not apply bias adjustment factors to the flow rate data and do not use substitute flow rate data in the calculations. (d) If you are required to make corrections for stack gas moisture content when converting pollutant concentrations to the units of an emission standard in Table 1 of 2 to this subpart, you must install, certify, operate, and maintain a moisture monitoring system in accordance with part 75 of this chapter. Alternatively, for coal-fired units, you may use appropriate fuel-specific default moisture values from §75.11(b) of this chapter to estimate the moisture content of the stack gas or you may petition the Administrator under §75.66 of this chapter for use of a default moisture value for non-coal-fired units. If you install and operate a moisture monitoring system, do not use substitute moisture data in the emissions calculations. (e) If you use an HCl and/or HF CEMS, you must install, certify, operate, maintain, and quality-assure the data from the monitoring system in accordance with appendix B to this subpart. Calculate and record a 30-boiler operating day rolling average HCl or HF emission rate in the units of the standard, updated after each new boiler operating day. Each 30-boiler operating day rolling average emission rate is the average of all the valid hourly HCl or HF emission rates in the preceding 30 boiler operating days (see section 9.4 of appendix B to this subpart). (f)(1) If you use an SO_2 CEMS, you must install the monitor at the outlet of the EGU, downstream of all emission control devices, and you must certify, operate, and maintain the CEMS according to part 75 of this chapter. (2) For on-going QA, the SO_2 CEMS must meet the applicable daily, quarterly, and semiannual or annual requirements in sections 2.1 through 2.3 of appendix B to part 75 of this chapter, with the following addition: You must perform the linearity checks required in section 2.2 of appendix B to part 75 of this chapter if the SO_2 CEMS has a span value of 30 ppm or less. (3) Calculate and record a 30-boiler operating day rolling average SO_2 emission rate in the units of the standard, updated after each new boiler operating day. Each 30-boiler operating day rolling average emission rate is the average of all of the valid SO_2 emission rates in the preceding 30 boiler operating days.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	(4) Use only unadjusted, quality-assured SO_2 concentration values in the emissions calculations; do not apply bias adjustment factors to the part 75 SO_2 data and do not use part 75 substitute data values. For startup or shutdown hours (as defined in §63.10042) the default electrical load and the diluent cap are available for use in the hourly SO_2 emission rate calculations, as described in §63.10007(f). Use a flag to identify each startup or shutdown hour and report a special code if the diluent cap or default electrical load is used to calculate the SO_2 emission rate for any of these hours. (g) If you use a Hg CEMS or a sorbent trap monitoring system, you must install, certify, operate, maintain and quality-assure the data from the monitoring system in accordance with appendix A to this subpart. You must calculate and record a 30- (or, if alternate emissions averaging is used, 90-) boiler operating day rolling average Hg emission rate, in units of the standard, updated after each new boiler operating day. Each 30- (or, if alternate emissions averaging is used, 90-) boiler operating day rolling average emission rate, calculated according to section 6.2 of appendix A to the subpart, is the average of all of the valid hourly Hg emission rates in the preceding 30- (or, if alternate emissions averaging is used, a 90-) boiler operating days. Section 7.1.4.3 of appendix A to this subpart explains how to reduce sorbent trap monitoring system data to an hourly basis. (h) *Not Applicable*. (i) If you choose to comply with the PM filterable emissions limit in lieu of metal HAP limits, you may choose to install, certify, operate, and maintain a **PM CEMS** and record the output of the PM CEMS as specified in paragraphs (i)(1) through (5) of this section. The compliance limit will be expressed as a 30-boiler operating day rolling average of the numerical emissions limit value applicable for your unit in tables 1 or 2 to this subpart. (1) Install and certify your PM CEMS according to the procedures and requirements in Performance Specification 11—Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix B to part 60 of this chapter, using Method 5 at Appendix A-3 to part 60 of this chapter and ensuring that the front half filter temperature shall be 160° ±14 °C (320° ±25 °F). The reportable measurement output from the PM CEMS must be expressed in units of the applicable emissions limit (e.g., lb/MMBtu, lb/MWh). (2) Operate and maintain your PM CEMS according to the procedures and requirements in Procedure 2—Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	Sources in Appendix F to part 60 of this chapter. (i) You must conduct the relative response audit (RRA) for your PM CEMS at least once annually. (ii) You must conduct the relative correlation audit (RCA) for your PM CEMS at least once every 3 years. (3) Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in paragraph (i) of this section. (4) Calculate the arithmetic 30-boiler operating day rolling average of all of the hourly average PM CEMS output data collected during all nonexempt boiler operating hours. (5) You must collect data using the PM CEMS at all times the process unit is operating and at the intervals specified in paragraph (a) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. (i) You must use all the data collected during all boiler operating hours in assessing the compliance with your operating limit except: (A) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions in calculations and report any such periods in your annual deviation report; (B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out of control periods in calculations used to report emissions or operating levels and report any such periods in your annual deviation report; (C) Any data recorded during periods of startup or shutdown. (ii) You must record and make available upon request results of PM CEMS system performance audits, dates and duration of periods when the PM CEMS is out of control to completion of the corrective actions necessary to return the PM CEMS to operation consistent with your site-specific monitoring plan. (j) You may choose to comply with the metal HAP emissions limits using CEMS approved in accordance with §63.7(f) as an alternative to the performance test method specified in this rule. If approved to use a HAP metals CEMS, the compliance limit will be expressed as a 30-boiler operating day rolling average of the numerical emissions limit value applicable for your unit in tables 1 or 2. If approved, you may choose to install, certify, operate, and maintain a HAP metals CEMS and record the output of the HAP metals CEMS as specified in paragraphs (j)(1) through

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	(5) of this section. (1)(i) Install and certify your HAP metals CEMS according to the procedures and requirements in your approved site-specific test plan as required in §63.7(e). The reportable measurement output from the HAP metals CEMS must be expressed in units of the applicable emissions limit (*e.g.,* lb/MMBtu, lb/MWh) and in the form of a 30-boiler operating day rolling average. (ii) Operate and maintain your HAP metals CEMS according to the procedures and criteria in your site specific performance evaluation and quality control program plan required in §63.8(d). (2) Collect HAP metals CEMS hourly average output data for all boiler operating hours except as indicated in section (j)(4) of this section. (3) Calculate the arithmetic 30-boiler operating day rolling average of all of the hourly average HAP metals CEMS output data collected during all nonexempt boiler operating hours data. (4) You must collect data using the HAP metals CEMS at all times the process unit is operating and at the intervals specified in paragraph (a) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. (i) You must use all the data collected during all boiler operating hours in assessing the compliance with your emission limit except: (A) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions in calculations and report any such periods in your annual deviation report; (B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out of control periods in calculations used to report emissions or operating levels and report any such periods in your annual deviation report; (C) Any data recorded during periods of startup or shutdown. (ii) You must record and make available upon request results of HAP metals CEMS system performance audits, dates and duration of periods when the HAP metals CEMS is out of control to completion of the corrective actions necessary to return the HAP metals CEMS to operation consistent with your site-specific performance evaluation and quality control program plan.”

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	§63.10011 - How do I demonstrate initial compliance with the emissions limits and work practice standards? (a) You must demonstrate initial compliance with each emissions limit that applies to you by conducting performance testing. (b) *Not Applicable.* (c)(1) If you use **CEMS** or sorbent trap monitoring systems to measure a HAP (e.g., Hg or HCl) directly, the first 30-boiler operating day (or, if alternate emissions averaging is used for Hg, the 90-boiler operating day) rolling average emission rate obtained with certified CEMS after the applicable date in §63.9984 (or, if applicable, prior to that date, as described in §63.10005(b)(2)), expressed in units of the standard, is the initial performance test. Initial compliance is demonstrated if the results of the performance test meet the applicable emission limit in Table 1 or 2 to this subpart. (2) For a unit that uses a **CEMS to measure SO_2 or PM** emissions for initial compliance, the first 30 boiler operating day average emission rate obtained with certified CEMS after the applicable date in §63.9984 (or, if applicable, prior to that date, as described in §63.10005(b)(2)), expressed in units of the standard, is the initial performance test. Initial compliance is demonstrated if the results of the performance test meet the applicable SO_2 or filterable PM emission limit in Table 1 or 2 to this subpart." "(e) You must submit a Notification of Compliance Status containing the results of the initial compliance demonstration, according to §63.10030(e). (f)(1) You must determine the fuel whose combustion produces the least uncontrolled emissions, i.e., the cleanest fuel, either natural gas or distillate oil, that is available on site or accessible nearby for use during periods of startup or shutdown. (2) Your cleanest fuel, either natural gas or distillate oil, for use during periods of startup or shutdown determination may take safety considerations into account. (g) You must follow the startup or shutdown requirements given in Table 3 for each coal-fired, liquid oil-fired, and solid oil-derived fuel-fired EGU. (1) You may use the diluent cap and default electrical load values, as described in §63.10007(f), during startup periods or shutdown periods. (2) You must operate all CMS, collect data, calculate pollutant emission rates, and record data during startup periods or shutdown periods. (3) You must report the information as required in §63.10031. (4) If you choose to use paragraph (2) of the definition of "startup" in §63.10042 and you find that you are unable to safely engage and operate your particulate matter (PM) control(s) within 1 hour of first firing of coal, residual oil, or solid oil-derived fuel, you may choose to rely on paragraph (1) of definition of "startup" in §63.10042 or you may submit a request to use an alternative non-opacity emissions standard, as described below.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	(i) As mentioned in §63.6(g)(1), the request will be published in the FEDERAL REGISTER for notice and comment rulemaking. Until promulgation in the FEDERAL REGISTER of the final alternative non-opacity emission standard, you shall comply with paragraph (1) of the definition of "startup" in §63.10042. You shall not implement the alternative non-opacity emissions standard until promulgation in the FEDERAL REGISTER of the final alternative non-opacity emission standard. (ii) The request need not address the items contained in §63.6(g)(2). (iii) The request shall provide evidence of a documented manufacturer-identified safely issue. (iv) The request shall provide information to document that the PM control device is adequately designed and sized to meet the PM emission limit applicable to the EGU. (v) In addition, the request shall contain documentation that: (A) The EGU is using clean fuels to the maximum extent possible to bring the EGU and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel in the EGU; (B) The EGU has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue; and (C) Identifies with specificity the details of the manufacturer's statement of concern. (vi) The request shall specify the other work practice standards the EGU owner or operator will take to limit HAP emissions during startup periods and shutdown periods to ensure a control level consistent with the work practice standards of the final rule. (vii) You must comply with all other work practice requirements, including but not limited to data collection, recordkeeping, and reporting requirements." Continuous Compliance Requirements **§63.10020** - How do I monitor and collect data to demonstrate continuous compliance? "(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.10000(d). (b) You must operate the monitoring system and collect data at all required intervals at all times that the affected EGU is operating, except for periods of monitoring system malfunctions or out-of-control periods (see §63.8(c)(7) of this part), and required monitoring system quality assurance or quality control activities, including, as applicable, calibration checks and required zero and span adjustments. You are required to affect monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	(c) You may not use data recorded during EGU startup or shutdown or monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system. (d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments), failure to collect required data is a deviation from the monitoring requirements. (e) Additional requirements during startup periods and shutdown periods (1) During each period of startup, you must record for each EGU: (i) The date and time that clean fuels being combusted for the purpose of startup begins; (ii) The quantity and heat input of clean fuel for each hour of startup; (iii) The electrical load for each hour of startup; (iv) The date and time that non-clean fuel combustion begins; and (v) The date and time that clean fuels being combusted for the purpose of startup ends. (2) During each period of shutdown, you must record for each EGU: (i) The date and time that clean fuels being combusted for the purpose of shutdown begins; (ii) The quantity and heat input of clean fuel for each hour of shutdown; (iii) The electrical load for each hour of shutdown; (iv) The date and time that non-clean fuel combustion ends; and (v) The date and time that clean fuels being combusted for the purpose of shutdown ends. (3) For PM or non-mercury HAP metals work practice monitoring during startup periods, you must monitor and collect data according to this section and the site-specific monitoring plan required by §63.10011(l). (i) Except for an EGU that uses **PM CEMS** or PM CPMS to demonstrate compliance with the PM emissions limit or that has LEE status for filterable PM or total non-Hg HAP metals for non-liquid oil-fired EGUs (or HAP metals emissions for liquid oil-fired EGUs), or individual non-mercury metals CEMS you must: (A) Record temperature and flow rate of post-combustion (exhaust) gas and amperage of forced draft fan(s) upstream of each filterable PM control

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	device during each hour of startup. (B) Record temperature and flow rate of exhaust gas and amperage of induced draft fan(s) downstream of each filterable control device during each hour of startup. (C) *Not Applicable*. (D) *Not Applicable.* (E) For an EGU with a wet scrubber needed for filterable PM control, record the scrubber liquid to fuel ratio and the differential pressure of the liquid during each hour of startup." **§63.10021** - <u>How do I demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards?</u> "(a) You must demonstrate continuous compliance with each emissions limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that applies to you, according to the monitoring specified in Tables 6 and 7 to this subpart and paragraphs (b) through (g) of this section. (b) Except as otherwise provided in §63.10020(c), if you use a **CEMS to measure SO_2, PM, HCl, HF, or Hg emissions**, or using a sorbent trap monitoring system to measure Hg emissions, you must demonstrate continuous compliance by using all quality-assured hourly data recorded by the CEMS (or sorbent trap monitoring system) and the other required monitoring systems (e.g., flow rate, CO_2 , O_2 , or moisture systems) to calculate the arithmetic average emissions rate in units of the standard on a continuous 30-boiler operating day (or, if alternate emissions averaging is used for Hg, 90-boiler operating day) rolling average basis, updated at the end of each new boiler operating day. Use Equation 8 to determine the 30- (or, if applicable, 90-) boiler operating day rolling average. $Boiler\ operating\ day\ average = \frac{\sum_{i=1}^{n} Her_i}{n}$ (Eq. 8) Where: Her_i is the hourly emissions rate for hour i and n is the number of hourly emissions rate values collected over 30- (or, if applicable, 90-) boiler operating days. "(e) If you must conduct periodic performance tune-ups of your EGU(s), as specified in paragraphs (e)(1) through (9) of this section, perform the first tune-up as part of your initial compliance demonstration. Notwithstanding this requirement, you may delay the first burner inspection until the next scheduled unit outage provided you meet the requirements of §63.10005. Subsequently, you must perform an inspection of the burner at least once every 36 calendar months unless your EGU employs neural network combustion optimization during normal operations in which case you must perform an inspection of the burner and combustion controls at least once every 48 calendar months.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	(1) As applicable, inspect the burner and combustion controls, and clean or replace any components of the burner or combustion controls as necessary upon initiation of the work practice program and at least once every required inspection period. Repair of a burner or combustion control component requiring special order parts may be scheduled as follows: (i) Burner or combustion control component parts needing replacement that affect the ability to optimize NO_X and CO must be installed within 3 calendar months after the burner inspection, (ii) Burner or combustion control component parts that do not affect the ability to optimize NO_X and CO may be installed on a schedule determined by the operator; (2) As applicable, inspect the flame pattern and make any adjustments to the burner or combustion controls necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available, or in accordance with best combustion engineering practice for that burner type; (3) As applicable, observe the damper operations as a function of mill and/or cyclone loadings, cyclone and pulverizer coal feeder loadings, or other pulverizer and coal mill performance parameters, making adjustments and effecting repair to dampers, controls, mills, pulverizers, cyclones, and sensors; (4) As applicable, evaluate wind box pressures and air proportions, making adjustments and effecting repair to dampers, actuators, controls, and sensors; (5) Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly. Such inspection may include calibrating excess O_2 probes and/or sensors, adjusting overfire air systems, changing software parameters, and calibrating associated actuators and dampers to ensure that the systems are operated as designed. Any component out of calibration, in or near failure, or in a state that is likely to negate combustion optimization efforts prior to the next tune-up, should be corrected or repaired as necessary; (6) Optimize combustion to minimize generation of CO and NO_X. This optimization should be consistent with the manufacturer's specifications, if available, or best combustion engineering practice for the applicable burner type. NO_X optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, adjusting combustion zone temperature profiles, and add-on controls such as SCR and SNCR; CO optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, and adjusting combustion zone temperature profiles;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	(7) While operating at full load or the predominantly operated load, measure the concentration in the effluent stream of CO and NO_X in ppm, by volume, and oxygen in volume percent, before and after the tune-up adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). You may use portable CO, NO_X and O_2 monitors for this measurement. EGU's employing neural network optimization systems need only provide a single pre- and post-tune-up value rather than continual values before and after each optimization adjustment made by the system; (8) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (e)(1) through (e)(9) of this section including: (i) The concentrations of CO and NO_X in the effluent stream in ppm by volume, and oxygen in volume percent, measured before and after an adjustment of the EGU combustion systems; (ii) A description of any corrective actions taken as a part of the combustion adjustment; and (iii) The type(s) and amount(s) of fuel used over the 12 calendar months prior to an adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period; and (9) Report the dates of the initial and subsequent tune-ups as follows: (i) If the first required tune-up is performed as part of the initial compliance demonstration, report the date of the tune-up in hard copy (as specified in §63.10030) and electronically (as specified in §63.10031). Report the date of each subsequent tune-up electronically (as specified in §63.10031). (ii) If the first tune-up is not conducted as part of the initial compliance demonstration, but is postponed until the next unit outage, report the date of that tune-up and all subsequent tune-ups electronically, in accordance with §63.10031." "(f) You must submit the reports required under §63.10031 and, if applicable, the reports required under appendices A and B to this subpart. The electronic reports required by appendices A and B to this subpart must be sent to the Administrator electronically in a format prescribed by the Administrator, as provided in §63.10031. CEMS data (except for PM CEMS and any approved alternative monitoring using a HAP metals CEMS) shall be submitted using EPA's Emissions Collection and Monitoring Plan System (ECMPS) Client Tool. Other data, including PM CEMS data, HAP metals CEMS data, and CEMS performance test detail reports, shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool, the Compliance and Emissions Data Reporting Interface, or alternate electronic file format, all as provided for

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU

under §63.10031."

"(g) You must report each instance in which you did not meet an applicable emissions limit or operating limit in Tables 1 through 4 to this subpart or failed to conduct a required tune-up. These instances are deviations from the requirements of this subpart. These deviations must be reported according to §63.10031.

(h) You must keep records as specified in §63.10032 during periods of startup and shutdown.

(1) You may use the diluent cap and default electrical load values, as described in §63.10007(f), during startup periods or shutdown periods.

(2) You must operate all CMS, collect data, calculate pollutant emission rates, and record data during startup periods or shutdown periods.

(3) You must report the information as required in §63.10031.

(4) You may choose to submit an alternative non-opacity emission standard, in accordance with the requirements contained in §63.10011(g)(4). Until promulgation in the FEDERAL REGISTER of the final alternative non-opacity emission standard, you shall comply with paragraph (1) of the definition of "startup" in §63.10042.

(i) You must provide reports as specified in §63.10031 concerning activities and periods of startup and shutdown."

Table 7 to Subpart UUUUU of Part 63—Demonstrating Continuous Compliance

As stated in §63.10021, you must show continuous compliance with the emission limitations for affected sources according to the following:

If you use one of the following to meet applicable emissions limits, operating limits, or work practice standards...	You demonstrate continuous compliance by...
1. **CEMS to measure filterable PM, SO_2, HCl, HF, or Hg emissions**, or using a sorbent trap monitoring system to measure Hg	Calculating the 30- (or 90-) boiler operating day rolling arithmetic average emissions rate in units of the applicable emissions standard basis at the end of each boiler operating day using all of the quality assured hourly average CEMS or sorbent trap data for the previous 30- (or 90-) boiler operating days, excluding data recorded during periods of startup or shutdown.
5. Conducting periodic performance tune-ups of your EGU(s)	Conducting periodic performance tune-ups of your EGU(s), as specified in §63.10021(e).
6. Work practice standards for **coal-fired**, liquid oil-fired, or solid oil-derived fuel-fired EGUs during startup	Operating in accordance with Table 3.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU		
	7. Work practice standards for **coal-fired**, liquid oil-fired, or solid oil-derived fuel-fired EGUs during shutdown	Operating in accordance with Table 3.
1e.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** Control of HAPs Emissions **Notification, Reports, and Records** **§63.10032** - What records must I keep? "(a) You must keep records according to paragraphs (a)(1) and (2) of this section. If you are required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, you must also keep the records required under appendix A and/or appendix B to this subpart. (1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv). (2) Records of performance stack tests, fuel analyses, or other compliance demonstrations and performance evaluations, as required in §63.10(b)(2)(viii). (b) For each **CEMS** and CPMS, you must keep records according to paragraphs (b)(1) through (4) of this section. (1) Records described in §63.10(b)(2)(vi) through (xi). (2) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3). (3) Request for alternatives to relative accuracy test for CEMS as required in §63.8(f)(6)(i). (4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period. (c) You must keep the records required in Table 7 to this subpart including records of all monitoring data and calculated averages for applicable PM CPMS operating limits to show continuous compliance with each emission limit and operating limit that applies to you. (d) For each EGU subject to an emission limit, you must also keep the records in paragraphs (d)(1) through (3) of this section. (1) You must keep records of monthly fuel use by each EGU, including the type(s) of fuel and amount(s) used.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	(2) *Not Applicable*. (3) *Not Applicable*." "(f) You must keep records of the occurrence and duration of each startup and/or shutdown. (g) You must keep records of the occurrence and duration of each malfunction of an operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment. (h) You must keep records of actions taken during periods of malfunction to minimize emissions in accordance with §63.10000(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. (i) You must keep records of the type(s) and amount(s) of fuel used during each startup or shutdown." **§63.10033** - <u>In what form and how long must I keep my records?</u> "(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). (b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. (c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years."
1e.5	**<u>Reporting Requirements</u>:** <u>Control of HAPs Emissions</u> **<u>Notification, Reports, and Records</u>** **§63.10030** - <u>What notifications must I submit and when?</u> "(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) that apply to you by the dates specified. (b) As specified in §63.9(b)(2), if you startup your EGU that is an affected source before April 16, 2012, you must submit an Initial Notification not later than 120 days after April 16, 2012." "(d) When you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin. (e) 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

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	report must contain all the information specified in paragraphs (e)(1) through (7), as applicable. (1) A description of the affected source(s) including identification of which subcategory the source is in, the design capacity of the source, a description of the add-on controls used on the source, description of the fuel(s) burned, including whether the fuel(s) were determined by you or EPA through a petition process to be a non-waste under 40 CFR 241.3, whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of 40 CFR 241.3, and justification for the selection of fuel(s) burned during the performance test. (2) Summary of the results of all performance tests and fuel analyses and calculations conducted to demonstrate initial compliance including all established operating limits. (3) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing; fuel moisture analyses; performance testing with operating limits (e.g., use of PM CPMS); **CEMS**; or a sorbent trap monitoring system. (4) Identification of whether you plan to demonstrate compliance by emissions averaging. (5) A signed certification that you have met all applicable emission limits and work practice standards. (6) If you had a deviation from any emission limit, work practice standard, or operating limit, you must also submit a brief description of the deviation, the duration of the deviation, emissions point identification and the cause of the deviation in the Notification of Compliance Status report. (7) In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following: (i) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable. If you are conducting stack tests once every 3 years consistent with §63.10006(b), the date of the last three stack tests, a comparison of the emission level you achieved in the last three stack tests to the 50 percent emission limit threshold required in §63.10006(i), and a statement as to whether there have been any operational changes since the last stack test that could increase emissions. (ii) Certifications of compliance, as applicable, and must be signed by a responsible official stating: (A) “This EGU complies with the requirements in §63.10021(a) to demonstrate continuous compliance.” and (B) “No secondary materials that are solid waste were combusted in any affected unit.” “(8) Identification of whether you plan to rely on paragraph (1) or (2) of the definition of “startup” in §63.10042.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	(i) Should you choose to rely on paragraph (2) of the definition of "startup" in §63.10042 for your EGU, you shall include a report that identifies: (A) The original EGU installation date; (B) The original EGU design characteristics, including, but not limited to, fuel and PM controls; (C) Each design PM control device efficiency; (D) The design PM emission rate from the EGU in terms of pounds PM per MMBtu and pounds PM per hour; (E) The design time from start of fuel combustion to necessary conditions for each PM control device startup; (F) Each design PM control device efficiency upon startup of the PM control device; (G) The design EGU uncontrolled PM emission rate in terms of pounds PM per hour; (H) Each change from the original design that did or could have changed PM emissions, including, but not limited to, each different fuel mix, each revision to each PM control device, and each EGU revision, along with the month and year that the change occurred; (I) Current EGU PM producing characteristics, including, but not limited to, fuel mix and PM controls; (J) Current PM emission rate from the EGU in terms of pounds PM per MMBtu and pounds per hour; (K) Current PM control device efficiency from each PM control device; (L) Current time from start of fuel combustion to conditions necessary for each PM control device startup; (M) Current PM control device efficiency upon startup of each PM control device; and (N) Current EGU uncontrolled PM emission rate in terms of pounds PM per hour. (ii) The report shall be prepared, signed, and sealed by a professional engineer licensed in the state where your EGU is located. Apart from preparing, signing, and sealing this report, the professional engineer shall be independent and not otherwise employed by your company, any parent company of your company, or any subsidiary of your company." **§63.10031** - <u>What reports must I submit and when?</u> "(a) You must submit each report in Table 8 to this subpart that applies to you. If you are required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, you must also submit the electronic reports required under appendix A and/or appendix B to the subpart, at the specified frequency. (b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	date in Table 8 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section. (1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.9984 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in §63.9984. (2) The first compliance report must be postmarked or submitted electronically no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.9984. (3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. (4) Each subsequent compliance report must be postmarked or submitted electronically no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. (5) For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section. (c) The compliance report must contain the information required in paragraphs (c)(1) through (4) of this section. (1) The information required by the summary report located in 63.10(e)(3)(vi). (2) The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure. (3) Indicate whether you burned new types of fuel during the reporting period. If you did burn new types of fuel you must include the date of the performance test where that fuel was in use. (4) Include the date of the most recent tune-up for each unit subject to the requirement to conduct a performance tune-up according to §63.10021(e). Include the date of the most recent burner inspection if it was not done every 36 (or 48) months and was delayed until the next scheduled unit shutdown. (5) For each instance of startup or shutdown: (i) Include the maximum clean fuel storage capacity and the maximum

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	hourly heat input that can be provided for each clean fuel determined according to the requirements of §63.10032(f). (ii) Include the information required to be monitored, collected, or recorded according to the requirements of §63.10020(e). (iii) If you choose to use CEMS for compliance purposes, include hourly average CEMS values and hourly average flow rates. Use units of milligrams per cubic meter for PM CEMS, micrograms per cubic meter for Hg CEMS, and ppmv for HCl, HF, or SO_2 CEMS. Use units of standard cubic meters per hour on a wet basis for flow rates. (iv) If you choose to use a separate sorbent trap measurement system for startup or shutdown reporting periods, include hourly average mercury concentration in terms of micrograms per cubic meter. (v) If you choose to use a PM CPMS, include hourly average operating parameter values in terms of the operating limit, as well as the operating parameter to PM correlation equation. (d) For each excess emissions occurring at an affected source where you are using a CMS to comply with that emission limit or operating limit, you must include the information required in §63.10(e)(3)(v) in the compliance report specified in section (c). (e) Each affected source that has obtained a Title V operating permit pursuant to part 70 or part 71 of this chapter must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 8 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. Submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority. (f) On or after **April 16, 2017**, within 60 days after the date of completing each performance test, you must submit the performance test reports required by this subpart to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using those test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority. (1) On or after **April 16, 2017**, within 60 days after the date of completing each **CEMS (SO_2, PM, HCl, HF, and Hg)** performance evaluation test, as defined in §63.2 and required by this subpart, you must submit the relative accuracy test audit (RATA) data (or, for PM CEMS, RCA and RRA data) required by this subpart to EPA's WebFIRE database by using CEDRI that is accessed through EPA's CDX (*www.epa.gov/cdx*). The RATA data shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (*http://www.epa.gov/ttn/chief/ert/index.html*). Only RATA data compounds listed on the ERT Web site are subject to this requirement. Owners or operators who claim that some of the information being submitted for RATAs is confidential business information (CBI) shall submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) by registered letter to EPA and the same ERT file with the CBI omitted to EPA via CDX as described earlier in this paragraph. The compact disk or other commonly used electronic storage media shall be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. At the discretion of the delegated authority, owners or operators shall also submit these RATAs to the delegated authority in the format specified by the delegated authority. Owners or operators shall submit calibration error testing, drift checks, and other information required in the performance evaluation as described in §63.2 and as required in this chapter. (2) On or after April 16, 2017, for a PM CEMS, PM CPMS, or approved alternative monitoring using a HAP metals CEMS, within 60 days after the reporting periods ending on March 31st, June 30th, September 30th, and December 31st, you must submit quarterly reports to EPA's WebFIRE database by using the CEDRI that is accessed through EPA's CDX (*www.epa.gov/cdx*). You must use the appropriate electronic reporting form in CEDRI or provide an alternate electronic file consistent with EPA's

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU	
	reporting form output format. For each reporting period, the quarterly reports must include all of the calculated 30-boiler operating day rolling average values derived from the CEMS and PM CPMS. (3) Reports for an SO_2 CEMS, a Hg CEMS or sorbent trap monitoring system, an HCl or HF CEMS, and any supporting monitors for such systems (such as a diluent or moisture monitor) shall be submitted using the ECMPS Client Tool, as provided for in Appendices A and B to this subpart and §63.10021(f). (4) On or after April 16, 2017, submit the compliance reports required under paragraphs (c) and (d) of this section and the notification of compliance status required under §63.10030(e) to EPA's WebFIRE database by using the CEDRI that is accessed through EPA's CDX (*www.epa.gov/cdx*). You must use the appropriate electronic reporting form in CEDRI or provide an alternate electronic file consistent with EPA's reporting form output format. (5) All reports required by this subpart not subject to the requirements in paragraphs (f) introductory text and (f)(1) through (4) of this section must be sent to the Administrator at the appropriate address listed in §63.13. If acceptable to both the Administrator and the owner or operator of an EGU, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraphs (f) introductory text and (f)(1) through (4) of this section in paper format. (6) Prior to April 16, 2017, all reports subject to electronic submittal in paragraphs (f) introductory text, (f)(1), (2), and (4) shall be submitted to the EPA at the frequency specified in those paragraphs in electronic portable document format (PDF) using the ECMPS Client Tool. Each PDF version of a submitted report must include sufficient information to assess compliance and to demonstrate that the testing was done properly. The following data elements must be entered into the ECMPS Client Tool at the time of submission of each PDF file: (i) The facility name, physical address, mailing address (if different from the physical address), and county; (ii) The ORIS code (or equivalent ID number assigned by EPA's Clean Air Markets Division (CAMD)) and the Facility Registry System (FRS) ID; (iii) The EGU (or EGUs) to which the report applies. Report the EGU IDs as they appear in the CAMD Business System; (iv) If any of the EGUs in paragraph (f)(6)(iii) of this section share a common stack, indicate which EGUs share the stack. If emissions data are monitored and reported at the common stack according to part 75 of this chapter, report the ID number of the common stack as it is represented in the electronic monitoring plan required under §75.53 of this chapter;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU

(v) If any of the EGUs described in paragraph (f)(6)(iii) of this section are in an averaging plan under §63.10009, indicate which EGUs are in the plan and whether it is a 30- or 90-day averaging plan;
(vi) The identification of each emission point to which the report applies. An "emission point" is a point at which source effluent is released to the atmosphere, and is either a dedicated stack that serves one of the EGUs identified in paragraph (f)(6)(iii) of this section or a common stack that serves two or more of those EGUs. To identify an emission point, associate it with the EGU or stack ID in the CAMD Business system or the electronic monitoring plan (*e.g.,* "Unit 2 stack," "common stack CS001," or "multiple stack MS001");
(vii) The rule citation (*e.g.,* §63.10031(f)(1), §63.10031(f)(2), etc.) for which the report is showing compliance;
(viii) The pollutant(s) being addressed in the report;
(ix) The reporting period being covered by the report (if applicable);
(x) The relevant test method that was performed for a performance test (if applicable);
(xi) The date the performance test was conducted (if applicable); and
(xii) The responsible official's name, title, and phone number.
(g) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded."

Table 8 to Subpart UUUUU of Part 63—Reporting Requirements
As stated in §63.10031, you must comply with the following requirements for reports:

You must submit a...	The report must contain...	You must submit the report...
1. Compliance report	a. Information required in §63.10031(c)(1) through (4); and b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and	Semiannually according to the requirements in §63.10031(b).

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – MACT Subpart UUUUU				
			c. If you have a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in §63.10031(d). If there were periods during which the CMSs, including continuous emissions monitoring systems and continuous parameter monitoring systems, were out-of-control, as specified in §63.8(c)(7), the report must contain the information in §63.10031(e)	

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 2	
2.0	**<u>Emissions Unit Number(s): F-CT1 thru F-CT6: Combustion Turbines</u>** **F-CT1 and F-CT2** – Two (2) General Electric Frame-5 combustion turbines each rated at 20 MW and used for black start capability and peaking service. These combustion turbines are fired on No. 2 fuel oil. The exhaust gas is vented to single 20 ft high stacks. **[4-0068 & 4-0069]** **F-CT3, F-CT4, F-CT5, F-CT6** – Four (4) General Electric Frame 7 combustion turbine each rated at 65 MW and used for peaking service. These combustion turbines are fired on No. 2 fuel oil. The exhaust gas is vented to single 20 ft high stacks. [**4-0070, 4-0071, 4-0073 & 4-0074]**
2.1	**<u>Applicable Standards/Limits</u>:** A. <u>Control of Visible Emissions</u> **COMAR 26.11.09.05A (1) & (3)** – <u>Fuel Burning Equipment</u> "Areas I, II, V, and VI. In Areas I, II, V, and VI, 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 greater than 20 percent opacity. <u>Exceptions</u>. 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." B. <u>Control of Sulfur Oxides</u> **COMAR 26.11.09.07A(1)** - <u>Sulfur Content Limitations for Fuel</u>. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI:

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
	(a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour; (b) Residual fuel oils, 2.0 percent; **(c) Distillate fuel oils, 0.3 percent;** (d) Process gas used as fuel, 0.3 percent." C. Control of Nitrogen Oxides **COMAR 26.11.09.08G**. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. "(1)A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; (c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request; (d) Not applicable; and (e) Not applicable." (2) A person who owns or operates a combustion turbine with a capacity factor greater than 15 percent shall meet an hourly average NO_X emission rate of not more than 42 ppm when burning gas or 65 ppm when burning fuel oil (dry volume at 15 percent oxygen) or meet applicable Prevention of Significant Deterioration limits, whichever is more restrictive." **Cross-State Air Pollution Rule** **TR NO_X Annual Trading Program 40 CFR Part 97 Subpart AAAAA** The Permittee shall comply with the provisions and requirements of §97.401 through §97.435 **Note: §97.406(c) NO_X emissions requirements**. For TR NO_X Annual emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall hold, in the source's compliance account, TR NO_X Annual allowances available for deduction for such control period under §97.424(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
	Annual units at the source. Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Annual allowance transfer must be submitted for recordation in a TR NO_X Annual source's compliance account in order to be available for use in complying with the source's TR NO_X Annual emissions limitation for such control period in accordance with §§97.406 and 97.424. **TR NO_X Ozone Season Trading Program 40 CFR Part 97 Subpart BBBBB** The Permittee shall comply with the provisions and requirements of §97.501 through §97.535 **Note: §97.506(c) NO_X emissions requirements**. For TR NO_X Ozone Season emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall hold, in the source's compliance account, TR NO_X Ozone Season allowances available for deduction for such control period under §97.524(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Ozone Season units at the source. Allowance transfer deadline means, for a control period in a given year, midnight of December 1 (if it is a business day), or midnight of the first business day thereafter (if December 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Ozone Season allowance transfer must be submitted for recordation in a TR NO_X Ozone Season source's compliance account in order to be available for use in complying with the source's TR NO_X Ozone Season emissions limitation for such control period in accordance with §§97.506 and 97.524.
2.2	**<u>Testing Requirements</u>:** A. <u>Control of Visible Emissions</u>: See Monitoring Requirements. B. <u>Control of Sulfur Oxides</u>: See Monitoring Requirements. C. <u>Control of Nitrogen Oxides</u>: The Permittee, if the turbines operate more than 500 hours, shall perform a

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
	combustion analysis and optimize combustion at least once annually. [**Reference: COMAR 26.11.09.08G(1)(b)]**.
2.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall utilize the computer software program previously installed, or an equivalent computer software program, to prompt the tracking review of the operating hours of each combustion turbine at the Morgantown Plant and to alert Plant personnel to conduct Method 9 Observations as required by Section IV of the Plant's Title V operating permit. [**Reference: March 2008 Consent Decree Section IV: Monitoring Operating Hours, Paragraph 6**]. The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours of operation or at a minimum once per year. The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity: (a) inspect combustion control system and combustion turbine operations, (b) perform all necessary adjustments and/or repairs to the combustion turbine within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the combustion turbine. The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily when combustion turbine operating for 18 minutes until corrective action have reduce visible emissions to less than 20 percent opacity. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides: The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides: See Record Keeping Requirements. **Cross-State Air Pollution Rule** The Permittee shall comply with the monitoring requirements found in §97.406, §97.430, §97.431, §97.432, and §97.433 for the NO_X Annual Trading Program and §97.506, §97.530, §97.531, §97.532, and §97.533 for

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
	the NO_X Ozone Season Trading Program.
2.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall keep a copy of the visible emissions readings and the certification of the visible emission reader(s) for at least five years on site and make available to the Department upon request. [**Reference: COMAR 26.11.03.06C**] B. Control of Sulfur Oxides: The Permittee shall maintain records of fuel supplier's certification and shall make records available to the Department upon request. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides The Permittee shall maintain the results of the combustion analysis and any stack tests at the site for at least 5 years and make these results available to the Department and the EPA upon request. [**Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]** **Cross-State Air Pollution Rule** The Permittee shall comply with the recordkeeping requirements found in §97.406, §97.430, and §97.434 for the NO_X Annual Trading Program and §97.506, §97.530, and §97.534 for the NO_X Ozone Season Trading Program.
2.5	**Reporting Requirements:** A. Control of Visible Emissions: The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". B. Control of Sulfur Oxides: The Permittee shall report fuel supplier certifications to the Department upon request. **[Reference: COMAR 26.11.09.07C]** C. Control of Nitrogen Oxides The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with the support documentation in the Annual

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
	Emission Certification Report. **[Reference: COMAR 26.11.09.08G(1)(a) COMAR 26.11.03.06C].** **Cross-State Air Pollution Rule** The Permittee shall comply with the reporting requirements found in §97.406, §97.430, §97.433 and §97.434 for the NO_X Annual Trading Program and §97.506, §97.530, §97.533, and §97.534 for the NO_X Ozone Season Trading Program.

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 3	
3.0	**Emissions Unit Number(s): F-Aux1, F-Aux 3, and F-Aux4: Auxiliary Boilers** **F-Aux1, F-Aux 3, and F-Aux4** - Three (3) Auxiliary boilers, manufactured by CE-Alstom, used for start-up steam and space heating. Auxiliary boilers are fired with No.2 fuel oil and each have a maximum rating of 164 mmBtu/hr. **[4-0015, 4-0017 & 4-0018]**
3.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05A (1) & (3)** – Fuel Burning Equipment "Areas I, II, V and VI. In Areas I, II, V and VI, 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 greater than 20 percent opacity. 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." B. Control of Sulfur Oxides **COMAR 26.11.09.07A(1)** - Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI: (a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3	
	premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour; (b) Residual fuel oils, 2.0 percent; **(c) Distillate fuel oils, 0.3 percent;** (d) Process gas used as fuel, 0.3 percent." C. Control of Nitrogen Oxides **COMAR 26.11.09.08G**. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. "(1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; (c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request; (d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request." **Note: COMAR 26.11.09.08B(5)(a)** states that "for the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation".
3.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Sulfur Oxides See Monitoring Requirements.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3	
	C. Control of Nitrogen Oxides The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the auxiliary boiler that operates more than 500 hours during a calendar year. [**Reference: COMAR 26.11.09.08G(1)(b)]**
3.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours of operation or at a minimum once per year. The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity: (a) inspect combustion control system and boiler operations, (b) perform all necessary adjustments and/or repairs to the boiler within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the auxiliary boiler. The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily for an 18 minute period until corrective action have reduce visible emissions to less than 20 percent opacity. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C].** C. Control of Nitrogen Oxides See Record Keeping Requirements.
3.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall maintain records of all visible emissions observations. **[Reference: COMAR 26.11.03.06C]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3	
	B. Control of Sulfur Oxides The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C].** C. Control of Nitrogen Oxides The Permittee shall maintain records of the results of the combustion analyses on site for at least five years and make them available to the Department and EPA upon request. **[Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]**. The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) & COMAR 26.11.03.06C]**.
3.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report exceedance of 20 percent opacity in accordance with Permit Condition 4,Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations" **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C].** C. Control of Nitrogen Oxides The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with support documentation in Annual Emissions certification Report. **[Reference: COMAR 26.11.03.06C].** The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C].**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
3a.0	**Emissions Unit Number(s): F-Aux2: Auxiliary Boilers Cont'd** **F-Aux2** - Auxiliary boiler No. 2 manufactured by CE-Alstom (Model #30VP21808R/48) is used for start-up steam and space heating. Auxiliary boiler No. 2 is fired with #2 fuel oil and has a maximum rating of 219.3 mmBtu/hr. [**4-0191**] **Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units** **§60.40b** - Applicability (a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour).
3a.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05A (1) & (3)** – Fuel Burning Equipment "Areas I, II, V and VI. In Areas I, II, V and VI, 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 greater than 20 percent opacity. 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." B. Control of Particulate Matter **§60.43b** – Standard for particulate matter. "(**f**) On and after the date on which the initial performance test is completed or is required to be completed under 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity." "(**g**) The particulate matter and opacity standards apply at all times, except during periods of startup, shutdown or malfunction."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	§60.46b – Compliance and performance test methods and procedures for particulate matter and nitrogen oxides "(a) The particulate matter emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction, and as specified in paragraphs (i) and (j) of this section. The nitrogen oxides emission standards under §60.44b apply at all times." C. Control of Sulfur Oxides **COMAR 26.11.09.07A(1)** - Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI: (a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour; (b) Residual fuel oils, 2.0 percent; **(c) Distillate fuel oils, 0.3 percent;** (d) Process gas used as fuel, 0.3 percent." **§60.42b** – Standard for sulfur dioxide. "(**d**) On and after the date on which the performance test is completed or required to be completed under §60.8 of this part, whichever comes first, no owner or operator of an affected facility listed in paragraph (d)(1), (2), or (3) of this section shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/million Btu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under this paragraph. (1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a Federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less; (2) Affected facilities located in a noncontinental area; or (3) Affected facilities combusting coal or oil, alone or in combination with any other fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of he heat input to the steam generating unit is from combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat input to the steam generating unit is from the exhaust gases entering the duct burner."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	D. Control of Nitrogen Oxides **COMAR 26.11.09.08G**. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. (1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; (c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request; (d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request." **Note: COMAR 26.11.09.08B(5)(a)** states that "for the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation". **§60.44b** – Standard for nitrogen oxides "(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance test for any affected facilities that: (1) Combust, alone or in combination only natural gas, **distillate oil**, or residual oil with a nitrogen content of 0.30 weight percent or less; (2) Have a combined annual capacity factor of 10 percent or less for natural gas, **distillate oil**, and residual oil with a nitrogen content of 0.30 weight percent or less and (3) Are subject to a Federally enforceable requirement limiting operation of the affected facility to firing of natural gas, **distillate oil**, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, **distillate oil** and residual oil and a nitrogen content of 0.30 weight percent or less."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

<table>
<tr><th colspan="2">Table IV – 3a</th></tr>
<tr><td></td><td>E. Operational Limit:
[Reference: CPCN Case No. 8949, Condition III – Operating Requirements]
(1) Operation of the auxiliary boiler shall not exceed 182,458 mmBtu in any consecutive 12-month period.
(2) Emissions from the auxiliary boiler shall not exceed the rates in the following table:
<table>
<tr><th>Pollutant</th><th>Maximum Short term rates (lb/mmBtu)*</th><th>Maximum Emission Rate (tons per year)</th></tr>
<tr><td>NO_X</td><td>0.30</td><td>27</td></tr>
<tr><td>SO_2</td><td>0.50</td><td>40</td></tr>
<tr><td>PM10</td><td>0.10</td><td>15</td></tr>
</table>
* Emissions are in pounds per million Btu on a 24-hour average basis.</td></tr>
<tr><td>3a.2</td><td><u>Testing Requirements</u>:

A. <u>Control of Visible Emissions</u>
See Monitoring Requirements.

B. <u>Control of Particulate Matter</u>:
§60.46b – <u>Compliance and performance test methods and procedures for particulate matter and nitrogen oxides</u>
“(b) Compliance with the particulate matter emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) and (j).”

C. <u>Control of Sulfur Oxides</u>:
§60.45b – <u>Compliance and performance test methods and procedures for sulfur dioxide</u>.
“(a) The sulfur dioxide emission standards under §60.42b apply at all times.”
“(j) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described §60.49b(r).”

D. <u>Control of Nitrogen Oxides</u>
The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the auxiliary boiler that operates more than 500 hours during a calendar year. [Reference: COMAR 26.11.09.08G(1)(b)].</td></tr>
</table>

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	§60.46b – Compliance and performance test methods and procedures for particulate matter and **nitrogen oxides** "(b) Compliance with the particulate matter emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) and (j)." E. Operational Limit: Compliance stack testing of the auxiliary boiler shall be conducted within 180 days of initial start-up to quantify pollutant emissions and demonstrate compliance with the emissions limits specified in Condition III.2 for the following air contaminants: nitrogen oxides ("NO_X") and particulate matter less than 10 microns in diameter ("PM_{10}"). [**Reference: CPCN Case No. 8949, Condition IV (1)].** *Completed* At least 30 days prior to conducting any compliance stack test, the Permittee shall submit a test protocol to ARMA for review. Compliance stack testing shall be conducted in accordance with ARMA Technical Memorandum ("TM") 91-01, "Test Methods and Equipment Specifications for Stationary Sources" (January, 1991), as amended by Supplement 1 (1 July 1991), 40 CFR 51, 40 CFR 60, or subsequent test protocols approved by ARMA. Test ports shall be located in accordance with TM 91-01 (January 1991), or subsequent or alternative measures approved by ARMA. "). [**Reference: CPCN Case No. 8949, Condition IV (2)].** *Completed* Testing shall be performed when operating at a minimum of 90 percent of the design load. If testing cannot be performed at the minimum load, then the actual load during testing shall become the allowable permitted load unless and until testing is performed while operating at a minimum of 90 percent of the design load. "). [**Reference: CPCN Case No. 8949, Condition IV (3)].** *Completed* In accordance with COMAR 26.11.01.04A, NRG may be required to conduct additional stack tests at any time as may be prescribed by ARMA. [**Reference: CPCN Case No. 8949, Condition IV (4)]** Final results of each compliance stack test must be submitted to ARMA within 60 days of completion of the test. Analytical data shall be submitted to ARMA directly from the emission testing company. . [**Reference: CPCN Case No. 8949, Condition IV (5)].** *Completed*
3a.3	**Monitoring Requirements:** A. Control of Visible Emissions

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours of operation or at a minimum once per year. The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity: (a) inspect combustion control system and boiler operations, (b) perform all necessary adjustments and/or repairs to the boiler within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the auxiliary boiler. The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily for an 18 minute period until corrective action have reduce visible emissions to less than 20 percent opacity. **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter: **§60.48b -** Emission monitoring for **particulate matter** and nitrogen oxides. (j) Units that burn only oil that contains no more than 0.3 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less **are not required to conduct PM emissions monitoring** if they maintain fuel supplier certifications of the sulfur content of the fuels burned. C. Control of Sulfur Oxides The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C].** **§60.47b** – Emission monitoring for sulfur dioxide "(**f**) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the emission monitoring requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r)." D. Control of Nitrogen Oxides See Record Keeping Requirements. **§60.48b** – Emission monitoring for particulate matter and **nitrogen oxides**. (i)"The owner or operator of an affected facility described in §60.44b(j) or

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	§60.44b(k) is not required to install or operate a continuous monitoring system for measuring nitrogen oxides emissions." §60.13(i) – "After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following: (2) Alternative monitoring requirements when the affected facility is infrequently operated." E. Operational Limit The Permittee shall calculate the monthly mmBtu over the previous 12-month period for the auxiliary boiler to maintain compliance with the 182,458-mmBtu limit. **[Reference: COMAR 26.11.03.06C]**
3a.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall maintain records of all visible emissions observations. **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter See Monitoring Requirements. C. Control of Sulfur Oxides The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C].** **§60.49b –** Reporting and recordkeeping requirements "(r) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the reporting period." D. Control of Nitrogen Oxides The Permittee shall maintain records of the results of the combustion analyses and any stack tests on site for at least five years and make them

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	available to the Department and EPA upon request. **[Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]**. The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) & COMAR 26.11.03.06C]**. E. Operational Limit The Permittee shall maintain records of the higher heating value of each shipment of fuel. **[Reference: CPCN Case No. 8949, Condition V (1)]**
3a.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report exceedance of 20 percent opacity in accordance with Permit Condition 4,Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations" B. Control of Particulate Matter. See Monitoring Requirements C. Control of Sulfur Oxides The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C].** D. Control of Nitrogen Oxides The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with the support documentation in the Annual Emission Certification Report. **[Reference: COMAR 26.11.03.06C].** The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C].** **§60.49b -** Reporting and record keeping requirements. (v) The owner or operator of an affected facility may submit electronic quarterly reports for SO_2 and/or NO_X and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format. (w) The reporting period for the reports required under this subpart is each 6-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period. E. Operational Limit **§60.49b** – Reporting and record keeping requirements. "(**a**) The owner or operator of each affected facility shall submit notification of the date of initial startup as provided by §60.7." *Completed* "(**d**) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month." "(**f**) For facilities subject to the opacity standard under §60.43b, the owner or operator shall maintain records of opacity." "(**h**) The owner or operator of any affected facility in any category listed in paragraphs (h) (1) or (2) of this section is required to submit excess emissions reports for any excess emissions which occurred during the reporting period." "(**j**) The owner or operator of any affected facility subject to the sulfur dioxide standards under §60.42b shall submit reports." "(**o**) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record." "(**r**) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the reporting period."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	"(**w**) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period."

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 3b – MACT Subpart DDDDD	
3b.0	**Emissions Unit Number(s): F-Aux1, F-Aux2 F-Aux 3, and F-Aux4: Auxiliary Boilers Cont'd** **F-Aux1, F-Aux 3, and F-Aux4** - Three (3) Auxiliary boilers, manufactured by CE-Alstom, used for start-up steam and space heating. Auxiliary boilers are fired with #2 fuel oil and each have a maximum rating of 164 mmBtu/hr. **[4-0015, 4-0017 & 4-0018]** **F-Aux2** - Auxiliary boiler No. 2 manufactured by CE-Alstom (Model #30VP21808R/48) is used for start-up steam and space heating. Auxiliary boiler No. 2 is fired with #2 fuel oil and has a maximum rating of 219.3 mmBtu/hr. [**4-0191**]
3b.1	**Applicable Standards/Limits:** Control of HAPs Emissions **40 CFR Part 63, Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters** **§63.7485 -** Am I subject to this subpart? You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP, except as specified in §63.7491. For purposes of this subpart, a major source of HAP is as defined in §63.2, except that for oil and natural gas production facilities, a major source of HAP is as defined in §63.7575. **§63.7495 -** When do I have to comply with this subpart? "(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by January 31, 2013, or upon startup of your boiler or process heater, whichever is later. (b) If you have an **existing boiler** or process heater, you must comply with this subpart no later than **January 31, 2016**, except as provided in

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD

§63.6(i)."
"(d) You must meet the notification requirements in §63.7545 according to the schedule in §63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart."
"(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 to this subpart."

§63.7500 - What emission limitations, work practice standards, and operating limits must I meet?
"(c) Limited-use boilers and process heaters must complete a tune-up every 5 years as specified in §63.7540. They are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, the annual tune-up, or the energy assessment requirements in Table 3 to this subpart, or the operating limits in Table 4 to this subpart."
"(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 to this subpart."

Table 3 to Subpart DDDDD of Part 63—Work Practice Standards
As stated in §63.7500, you must comply with the following applicable work practice standards:

If your unit is . . .	You must meet the following . . .
1. A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or **a limited use boiler** or process heater	Conduct a tune-up of the boiler or process heater every 5 years as specified in §63.7540.

Limited-use boiler *or process heater* means any boiler or process heater that burns any amount of solid, liquid, or gaseous fuels and has a federally enforceable average annual capacity factor of no more than 10 percent. [§63.7575]

General Compliance Requirements
§63.7505 - What are my general requirements for complying with this subpart?
"(a) You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These limits apply to you at all times the affected unit is operating except for the periods noted in §63.7500(f)."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	Operational Limits: **[Reference: §63.12]** **F-Aux1, F-Aux 3, and F-Aux4:** Auxiliary Boilers 1, 3, & 4 operations shall be limited to an annual capacity factor of 10 percent or less or an annual heat input of not greater than 143,664 million Btu. **F-Aux2:** Auxiliary Boiler 2 operation shall be limited to an annual capacity factor of 10 percent or less or an annual heat input of not greater than 182,458 million Btu. These units shall be defined as limit use boilers as defined in §63.7500(c) & §63.7575.
3b.2	**Testing Requirements:** Control of HAPs Emissions See Monitoring Requirements.
3b.3	**Monitoring Requirements:** Control of HAPs Emissions **Continuous Compliance Requirements** **§63.7540 -** How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards? "(a) You must demonstrate continuous compliance with each emission limit in Tables 1 and 2 or 11 through 13 to this subpart, the work practice standards in Table 3 to this subpart, and the operating limits in Table 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (19) of this section." "(10) If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. This frequency does not apply to limited-use boilers and process heaters, as defined in §63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio. (i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	(ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available; (iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection; (iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; (v) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and (vi) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section, (A) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater; (B) A description of any corrective actions taken as a part of the tune-up; and (C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit." "(12) If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or **meets the definition of limited-use boiler or process heater in §63.7575**, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months." "(13) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
3b.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** Control of HAPs Emissions **Notification, Reports, and Records** **§63.7555 -** What records must I keep? "(a) You must keep records according to paragraphs (a)(1) and (2) of this section. (1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv). (2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii)." **§63.7560 -** In what form and how long must I keep my records? "(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). (b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. (c) You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years."
3b.5	**Reporting Requirements:** Control of HAPs Emissions **Notification, Reports, and Records** **§63.7545 -** What notifications must I submit and when? "(a) You must submit to the Administrator all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified. (b) As specified in §63.9(b)(2), if you startup your affected source before January 31, 2013, **you must submit an Initial Notification not later than 120 days after January 31, 2013.** ***Completed*** (c) As specified in §63.9(b)(4) and (5), if you startup your new or reconstructed affected source on or after January 31, 2013, you must submit an Initial Notification not later than 15 days after the actual date of

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	startup of the affected source. (d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin. "(e) If you are required to conduct an initial compliance demonstration as specified in §63.7530, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to §63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8), as applicable. If you are not required to conduct an initial compliance demonstration as specified in §63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8). **§63.7550** - <u>What reports must I submit and when?</u> "(a) You must submit each report in Table 9 to this subpart that applies to you. (b) Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report, according to paragraph (h) of this section, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report. (1) The first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on July 31 or January 31, whichever date is the first date that occurs at least 180 days (or 1, 2, or 5 years, as applicable, if submitting an annual, biennial, or 5-year compliance report) after the compliance date that is specified for your source in §63.7495. (2) The first compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in §63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31. (4) Each subsequent compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31. (c) A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule. (1) If the facility is subject to a the requirements of a tune up they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv) and (xiv) of this section. (2) If a facility is complying with the fuel analysis they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv), (vi), (x), (xi), (xiii), (xv) and paragraph (d) of this section. (3) If a facility is complying with the applicable emissions limit with performance testing they must submit a compliance report with the information in (c)(5)(i) through (iv), (vi), (vii), (ix), (xi), (xiii), (xv) and paragraph (d) of this section. (4) If a facility is complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (vi), (xi), (xiii), (xv) through (xvii), and paragraph (e) of this section. (5)(i) Company and Facility name and address. (ii) Process unit information, emissions limitations, and operating parameter limitations. (iii) Date of report and beginning and ending dates of the reporting period. (iv) The total operating time during the reporting period. (v) If you use a CMS, including CEMS, COMS, or CPMS, you must include the monitoring equipment manufacturer(s) and model numbers and the date of the last CMS certification or audit. (vi) The total fuel use by each individual boiler or process heater subject to an emission limit within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure. (vii) If you are conducting performance tests once every 3 years consistent with §63.7515(b) or (c), the date of the last 2 performance tests and a statement as to whether there have been any operational changes since the last performance test that could increase emissions.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	(viii) A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, you must submit the calculation of chlorine input, using Equation 7 of §63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 12 of §63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of §63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 13 of §63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of §63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate, using Equation 14 of §63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). (ix) If you wish to burn a new type of fuel in an individual boiler or process heater subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of §63.7530 or the maximum mercury input operating limit using Equation 8 of §63.7530, or the maximum TSM input operating limit using Equation 9 of §63.7530 you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel. (x) A summary of any monthly fuel analyses conducted to demonstrate compliance according to §§63.7521 and 63.7530 for individual boilers or process heaters subject to emission limits, and any fuel specification analyses conducted according to §§63.7521(f) and 63.7530(g). (xi) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	(xii) If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in §63.8(c)(7), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period. (xiii) If a malfunction occurred during the reporting period, the report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with §63.7500(a)(3), including actions taken to correct the malfunction. (xiv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown. (xv) If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent than the level or control technology contained in the notification of compliance status in §63.7545(e)(5)(i). (xvi) For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values based on the daily CEMS (CO and mercury) and CPMS (PM CPMS output, scrubber pH, scrubber liquid flow rate, scrubber pressure drop) data. (xvii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. (d) For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section. (1) A description of the deviation and which emission limit or operating limit from which you deviated. (2) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken. (3) If the deviation occurred during an annual performance test, provide the date the annual performance test was completed. (e) For each deviation from an emission limit, operating limit, and monitoring requirement in this subpart occurring at an individual boiler or

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	process heater where you are using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (e)(1) through (9) of this section. This includes any deviations from your site-specific monitoring plan as required in §63.7505(d). (1) The date and time that each deviation started and stopped and description of the nature of the deviation (i.e., what you deviated from). (2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks. (3) The date, time, and duration that each CMS was out of control, including the information in §63.8(c)(8). (4) The date and time that each deviation started and stopped. (5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period. (6) A characterization of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes. (7) A summary of the total duration of CMS's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period. (8) A brief description of the source for which there was a deviation. (9) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation. (f)-(g) [Reserved] (h) You must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this section. (1) Within 60 days after the date of completing each performance test (defined in §63.2) as required by this subpart you must submit the results of the performance tests, including any associated fuel analyses, required by this subpart and the compliance reports required in §63.7550(b) to the EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of the EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to the EPA. The electronic media must be clearly

Table IV – 3b – MACT Subpart DDDDD	
	marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to the EPA via CDX as described earlier in this paragraph. At the discretion of the Administrator, you must also submit these reports, including the confidential business information, to the Administrator in the format specified by the Administrator. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator. (2) Within 60 days after the date of completing each CEMS performance evaluation test (defined in 63.2) you must submit the relative accuracy test audit (RATA) data to the EPA's Central Data Exchange by using CEDRI as mentioned in paragraph (h)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator. (3) You must submit all reports required by Table 9 of this subpart electronically using CEDRI that is accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due the report you must submit the report to the Administrator at the appropriate address listed in §63.13. At the discretion of the Administrator, you must also submit these reports, to the Administrator in the format specified by the Administrator.”

“A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above.”

Table IV – 4	
4.0	**<u>Emissions Unit Number(s): Coal Barge Unloader</u>** The barge loading facility consists of a dock, barge unloader, a transfer and distribution system and a railcar loading facility. The barge unloader system is sized to unload up to 5.0 million tons of coal per year. The barge unloader’s transfer and distribution system is integrated into Morgantown’s existing coal handling system. (**6-0138, (CPCN 9031)**)

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 4	
4.1	**Applicable Standards/Limits:** A. Control of Visible Emissions New Source Performance Standards (NSPS) 40 CFR 60 Subpart Y—Standards of Performance for Coal Preparation Plant (**40 CFR §60.250**) (and the associated notification and testing requirements of 40 CFR §60.7, §60.8 and §60.11) which requirements include: (a) NRG shall not cause to be discharged into the atmosphere gases from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system being constructed or modified by the Barge Unloading project which exhibit 20 percent opacity or greater (under 40 CFR §60.252(c)). Specifically, equipment that makes up the modified facilities includes: (1) Mechanical barge unloader; (2) Four conveyor transfer points; (3) Transfer point to rail car loading station; (4) Railcar loading station; and (5) Breaker building. (b) The opacity standards shall apply at all times except during periods of startup, shutdown, or malfunction; (c) At all times, including during periods of startup, shutdown and malfunction, NRG shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. **[Reference: CPCN 9031, condition 10]** B. Control of Particulate Matter **COMAR 26.11.06.03D**. - Particulate Matter from Materials Handling and Construction. Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For the coal piles, unloading, transfer, and loading operation at NRG's Coal Barge Unloading Project, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer: (1) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces, which can create airborne dusts. (2) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. (3) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution **[Reference: CPCN 9031, condition 9c]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 4

4.2 **Testing Requirements:**

A. Control of Visible Emissions
Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the coal barge unloading project, NRG shall conduct performance tests in accordance with the methods in NRG's ARMA-approved Performance Test Plan and furnished ARMA and EPA with a written report of the results of such performance test(s). **[Reference: CPCN 9031, condition 14].** ***(Completed)***

B. Control of Particulate Matter
See Monitoring Requirements.

4.3 **Monitoring Requirements:**

A. Control of Visible Emissions
NRG shall perform a monthly inspection of the coal unloading and handling operations to verify that the reasonable precautions (BMPs) in Condition 12 of the CPCN are being implemented. Visible emission or deviations identified during the inspections shall be promptly corrected. [**Reference: CPCN 9031, condition 15]**

B. Control of Particulate Matter
NRG shall maintain and operate the following barge unloading equipment and its associated particulate matter control mechanisms with the potential to cause air pollution in accordance with original design criteria, vendor recommendations, and best management practices and in such a manner as to ensure full and continuous compliance with all applicable regulations:

Equipment	Control Mechanism
Barge Unloader	Telescoping Unloader
Conveyors	Covers or Enclosures
Transfer Towers	Enclosure
Railcar Transfer Point and Load out Station	Partial Enclosure

[**Reference: CPCN 9031, condition 12a]**

NRG shall develop a coal handling best management practices (BMP) Plan for the coal barge unloader, associated conveyor system and railcar load out station to ensure that reasonable precautions will be used to prevent particulate matter from the coal barge unloading project equipment from becoming airborne. BMP's shall include, but are not limited to minimizing the area of permanent openings, using curtains at permanent openings,

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 4	
	where feasible, and keeping doorways or other temporary openings closed when not in use. **[Reference: CPCN 9031, condition 12b]**
4.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions NRG shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the coal unloading and handling facilities and any malfunction of its associated air pollution control equipment (40CFR 60.7(b). [**Reference: CPCN 9031, condition 18]** B. Control of Particulate Matter NRG shall maintain the written reasonable precautions (BMPs) at the facility. [**Reference: CPCN 9031, condition 16]** NRG shall keep written records of monthly inspections and maintenance performed under Condition 12 of the CPCN for the purposes of minimizing particulate matter emissions. Records shall include descriptions of the results of the inspection and maintenance, and any deviations and actions taken to address any noted deviations. [**Reference: CPCN 9031, condition 17]** All records and logs required by this CPCN shall be maintained at the facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of ARMA. [**Reference: CPCN 9031, condition 20]**
4.5	**Reporting Requirements:** A. Control of Visible Emissions Within 60 days of the initial startup date, NRG shall provide ARMA a Performance Test Plan that describes the proposed method for conducting the initial performance test that will demonstrate compliance with 40 CFR 60.252 opacity standard for the affected facilities. The Test Plan shall comply with the requirements of §60.8 and §60.11, as they relate to performing opacity observations. [**Reference: CPCN 9031, condition 13]** ***(Completed)***

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 4	
	All notifications and reports required by 40 CFR 60 and Subpart Y, unless specified otherwise, shall be submitted to: Regional Administrator US Environmental Protection Agency Region III 1650 Arch Street Philadelphia, Pennsylvania 19103-2029 [**Reference: CPCN 9031, condition 22]** NRG shall furnish written notification to ARMA and US EPA of the following events: a) The date constructions is commenced postmarked no later than 30 days after such date; ***(Completed)*** b) The anticipated startup date, not more than 60 or less than 30 days prior to such date; ***(Completed)*** c) The actual date of initial startup postmarked with in 15 days after such date; ***(Completed)*** d) Notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applied postmarked 60 days or as soon as practicable before the change has commenced; and e) The anticipated date for conducting the initial opacity observations (performance tests) postmarked not less than 30 days prior to such date. ***(Completed)*** **[Reference: CPCN 9031, condition 19]** B. <u>Control of Particulate Matter</u> Written records of monthly inspections and maintenance performed under Condition 12 of the CPCN for the purposes of minimizing particulate matter emissions shall be made available to the Department upon request. **[Reference: COMAR 26.11.06.06C**] All air quality notifications and reports required by this CPCN shall be submitted to: Administrator, Compliance Program Air and Radiation Management Administration 1800 Washington Boulevard Baltimore, Maryland 21230 **[Reference: CPCN 9031, condition 21]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 5	
5.0	**Emissions Unit Number(s): Coal Blending System & Gypsum Barge Loading System** The coal blending system is designed to blend various coals with different characteristics to match the specification of the Morgantown's boilers and air quality control equipment. The coal blending system consists of the following subsystems: new stack-out facilities in the south coal yard; underground reclaim facilities in existing south and north coal yards; reclaim transfer point to integrate the reclaim from the north and south coal yards; refurbished and upgraded emergency reclaim; and enclosed transfer station with dust suppression system.**[(017-0014-6-0154), (CPCN 9148)]** The Gypsum Barge Loading System is to convey and load gypsum produced by both the Chalk Point and Morgantown SO_2 FGD systems. The Gypsum Barge Loading System consists of the following subsystems: 1000-tph conveyor system; five transfer towers, one pier tripper conveyor, one telescoping barge load-out conveyor and rail unloading hopper and conveyor for chalk Point gypsum transfer**.[(017-0014-6-0153),(CPCN 9148)]**
5.1	**Applicable Standards/Limits:** Control of Particulate Matter **COMAR 26.11.06.03D**. - Particulate Matter from Materials Handling and Construction. Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For activities associated with NRG's Coal Blending/Gypsum Load out Project, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer: (1) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land; (2) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces, which can create airborne dusts. (3) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. (4) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution **[Reference: CPCN 9148, condition 11]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 5	
5.2	**Testing Requirements:** Control of Particulate Matter See Monitoring Requirements.
5.3	**Monitoring Requirements:** Control of Particulate Matter NRG shall update Morgantown's Best Management Practices (BMP) Plan as required by the facility's Part 70 Operating Permit (Permit No. 24-017-00014), to include the equipment and material handling processes associated with the Project. The Plan shall document what reasonable precautions will be used to prevent particulate matter from project equipment and material handling processes from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. MDE-ARMA shall approve the BMP Plan prior to implementation. **[Reference: CPCN 9148, condition 14].** ***(Completed)***
5.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** Control of Particulate Matter NRG shall maintain the written records of inspections, testing and monitoring results, and maintenance performed on Project emissions sources for the purposes of minimizing particulate matter emissions and demonstrating that coal blending/gypsum load out operations are meeting the approved BMP Plan. Records shall include description of the result of any inspection and maintenance. [**Reference: CPCN 9148, condition 15]** All records and logs required by CPCN 9148 shall be maintained at the facility for at least five years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of MDE-ARMA. [**Reference: CPCN 9148, condition 17]**
5.5	**Reporting Requirements:** Control of Particulate Matter Written records of inspections and maintenance performed under Condition

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 5	
	14 of the CPCN for the purposes of minimizing particulate matter emissions shall be made available to the Department upon request. **[Reference: COMAR 26.11.06.06C**] All air quality notifications and reports required by this CPCN shall be submitted to: Administrator, Compliance Program Air and Radiation Management Administration 1800 Washington Boulevard Baltimore, Maryland 21230 **[Reference: CPCN 9148, condition 18]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 6	
6.0	**<u>Emissions Unit Number(s): STAR</u>** The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization (FGD) scrubber system. Exhaust gases are directed through a 125 foot stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems. (**6-0150 (CPCN 9229)**)
6.1	**<u>Applicable Standards/Limits</u>:** **[Reference: CPCN 9229 – Emissions and Operational Requirements]** A. <u>Control of Visible Emissions</u> A-7(c) *Visible Emission from General Sources.* – Prohibits NRG from causing or permitting the discharge of emissions from any installation or building, other than water in an uncombined form, which is greater than 20 percent opacity [COMAR 26.11.06.02C]. B. <u>Control of Particulate Matter Emissions</u> A-7(d) *Particulate Matter from Confined Sources*. – Prohibits NRG from causing or permitting the discharge into the outdoor atmosphere from any

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	confined source of particulate matter in excess of 0.05 grains per dry standard cubic feet (gr/dscf) or 114 milligrams per dry standard cubic meter (mg/dscm) [COMAR 26.11.06.03B]. A-7(e) *Particulate Matter from Unconfined Sources*. – Prohibits NRG from causing or permitting the discharge of emissions from an unconfined source without taking reasonable precautions to prevent particulate matter from becoming airborne [COMAR 26.11.06.03C]. A-7(f) *Particulate Matter from Materials Handling and Construction*. – Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For the unloading, loading and transfer of the materials included at the Morgantown STAR Facility, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer: (1) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land. (2) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts. (3) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations. (4) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution [COMAR 26.11.06.03D]. C. Control of Sulfur Oxides Emissions A-7(g) *Sulfur Dioxide Emissions from General Sources*. – Prohibits NRG from causing or permitting the discharge of emissions in the atmosphere gases containing more than 500 ppm of SO_2 during any 24-hour block average of hourly arithmetic CEMS concentrations [COMAR 26.11.06.05B(1)] A-7(h) *Sulfuric Acid Emissions from General Sources*. - Prohibits NRG from causing or permitting the discharge of emissions in the atmosphere gases containing sulfuric acid, sulfur trioxide, or any combination of them greater than 35 milligrams per cubic meter of emissions of gases reported as sulfuric acid [COMAR 26.11.06.05B(2)]

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6

D. Control of VOC Emissions

A-7(i) *VOC Emissions from General Sources*. – Prohibits NRG from causing or permitting the discharge of VOC emissions from any installation in excess of 20 lb/day unless the discharge is reduced by 85 percent or more overall [COMAR 26.11.06.06B(2)(c)].

E. Operational Limits

A-8. Annual emissions from the Morgantown STAR Facility shall be less than the following in any consecutive 12-month period, rolling monthly, inclusive of emissions during periods of startup, shutdown and malfunction:

Pollutant	**Emissions Limit for Entire Morgantown STAR Facility (Tons per year)**
Sulfur Dioxide (SO_2)	40
Nitrogen Oxides (NO_X)	25
Carbon Monoxide (CO)	100
SO_2 or NO_X as a Particulate Matter less than 2.5 microns ($PM_{2.5}$) precursor	40

These federally enforceable limits are necessary for the Morgantown STAR Facility project to avoid triggering major modification requirements under Nonattainment New Source Review (NA-NSR) and Prevention of Significant Deterioration (PSD).

A-9. NRG shall install, maintain, and operate the Morgantown STAR Facility equipment inclusive of the fabric filter baghouse and wet FGD scrubber system air pollution control technologies, in accordance with the original design criteria, vendor recommendations and best management practices, and in such a manner to ensure full and continuous compliance with all applicable requirements. The baghouse and wet FGD scrubber shall be in place and operational whenever the STAR process reactor is running [COMAR 26.11.02.02H].

A-10. NRG is only permitted to process fly ash at the STAR Facility obtained from Morgantown, Chalk Point, and Dickerson Generating Stations [COMAR 26.11.02.02H].

A-11. The Morgantown STAR Facility shall not exceed an annual throughput of 360,000 tons of fly ash in any consecutive 12-month period, rolling monthly [COMAR 26.11.02.02H].

A-12. NRG is only permitted to use propane as an auxiliary fuel [COMAR 26.11.02.02H].

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
6.2	**Testing Requirements:** A. Control of Visible Emissions The Permittee shall conduct visible emission observations using EPA Method 9 during the annual stack testing of stationary sources**. [Reference: CPCN 9229, condition A-16(c)]** B. Control of Particulate Matter Emissions *From Confined Source*: The Permittee shall perform annual stack testing to demonstrate compliance with PM emission limit in the exhaust gases of the stack of the stationary sources. **[Reference: COMAR 26.11.03.06C]** *From Unconfined Source:* See Monitoring Requirements. C. Control of Sulfur Oxides Emissions See Operational Limits. D. Control of VOC Emissions See Record Keeping Requirements. E. Operational Limits See Monitoring Requirements.
6.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall visually inspect the exhaust gases from baghouse for visible emissions once a month for an 18-minute period and shall record the results of each observation. If visible emissions are observed, the Permittee shall perform the following: (a) Inspect all process and/or control equipment that may affect visible emissions; (b) Perform all necessary repairs and/or adjustments to all processes and/or control equipment within 48 hours so that visible emissions in the exhaust gases are eliminated; (c) Document in writing the results if the inspections and the repairs and/or adjustments made to the processes and/or control equipment; and (d) If visible emissions have not been eliminated within 48 hours, the Permittee shall perform a Method 9 observation once daily for an 18-minute period until the opacity standard of 20 percent is achieved. [**Reference: COMAR 26.11.03.06C**]. B. Control of Particulate Matter Emissions *From Confined Source:* The Permittee shall develop and implement a

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	preventive maintenance plan for the baghouse that describes the maintenance activity and time schedule for completing each activity. The Permittee shall perform maintenance activities within the timeframes established in the plan and maintain a log with records of the dates that maintenance was performed. [**Reference: COMAR 26.11.03.06C**]. *From Unconfined Source:* **[Reference: CPCN 9229 – Best Management Practice Requirements]** A-33. NRG shall update Morgantown's Best Management Practices (BMP) Plan as required by the facility's Part 70 Operating Permit (Permit No. 24-017-00014), to include the STAR Facility ash beneficiation process and associated control equipment and material handling processes associated with the project. The Plan shall document what reasonable precautions will be used to prevent PM from project equipment and material handling processes from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. MDE-ARMA shall approve the BMP Plan prior to implementation [COMAR 26.11.02.02H]. *Completed* C. Control of Sulfur Oxides Emissions See Operational Limits. D. Control of VOC Emissions See Best Management Plan Requirements listed under Control of Particulate Emissions. E. Operational Limits **[Reference: CPCN 9229 – Testing and Monitoring Requirements]** A-13. To demonstrate continuous compliance with the federally enforceable emissions limits set forth in Condition A-8, NRG shall install, maintain, and operate a continuous emissions monitoring system (CEMS) for SO_2, NO_X, CO and CO_2 or O_2 for emissions from the STAR process reactor through the exhaust stack in accordance with a CEMS Monitoring Plan approved by MDE-ARMA [COMAR 26.11.02.02H]. A-14. In accordance with operation of the CEMS, the Morgantown STAR Facility is subject to the following requirements: a) Except as otherwise approved by the MDE-ARMA, if NRG is unable to obtain emissions data from CEMS because of a malfunction of the CEMS for more than 2 hours in duration, NRG shall use the alternative measurement method approved by MDE-ARMA; b) The CEMS shall meet the quality assurance criteria of 40 CFR Part

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	60, Appendix F, as amended, which is incorporated by reference, or if applicable, the quality assurance criteria of 40 CFR 75, Appendix B, as amended; c) Mass emission rates of NO_X, SO_2 and CO in pounds per hour (lb/hr), and heat input in million Btu per hour (MMBtu/hr) or million Btu per day (MMBtu/day) shall be calculated using the equations and emissions factors presented in 40 CFR Part 75, Appendix F; d) As part of the emission calculation determination using 40 CFR Part 75, Appendix F, NRG shall obtain a site-specific F-factor (representing a ratio of volume of dry flue gases generated to the calorific value of the fuel combusted or a ratio of the volume of CO_2 generated to the calorific value of the fuel combusted). The site-specific F-factor shall be determined annually in accordance with the methodology on 40 CFR Part 75, Appendix F. e) The CEMS shall record not less than four equally spaced data points per hour and automatically reduce data in terms of averaging times consistent with the applicable emission standard; and f) The use of CEMS for enforcement purposes shall be as specified in MDE-ARMA's Technical Memorandum 90-01 "Continuous Emissions Monitoring (CEMS) Policies and Procedures," which is incorporated by reference [COMAR 26.11.02.02H]
6.4	**<u>Record Keeping Requirements</u>:** A. <u>Control of Visible Emissions</u> The Permittee shall maintain on site for at least five (5) years records of the visible emission observations completed during the annual stack testing of the stationary sources. **[Reference: CPCN 9229 condition A-31]** B. <u>Control of Particulate Matter Emissions</u> *From Confined Source:* The Permittee shall maintain a copy of the preventative maintenance plan and a record of the dates of and description of maintenance activity performed. The Permittee shall keep records of baghouse malfunctions and the corrective actions taken to bring it into proper operation. **[Reference: COMAR 26.11.03.06C]** *From Unconfined Source:* **[Reference: CPCN 9229 – Best Management Practice Requirements]** A-34. NRG shall keep written records of inspections, testing and monitoring results and maintenance performed on the Morgantown STAR Facility emissions sources for the purpose of minimizing PM emissions and demonstrating that the project operations are meeting the approved BMP Plan. Records shall include descriptions of the result of any inspection and maintenance [COMAR 26.11.02.02H].

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	C. Control of Sulfur Oxides Emissions See Operational Limits D. Control of VOC Emissions See Best Management Plan Requirements listed under Control of Particulate Emissions. E. Operational Limits **[Reference: CPCN 9229 – Testing and Monitoring Requirements]** A-18. NRG shall maintain a log of maintenance performed on the STAR process baghouse and wet FGD scrubber. The log of maintenance performed shall include record of dates, a description of the maintenance activity performed, a description of the reason for the maintenance activity (e.g. specific failure, routine) and other corrective actions taken to bring the control equipment into proper operation, if necessary. NRG shall make maintenance records available to MDE-ARMA upon request [COMAR 26.11.02.02H] A-19. NRG shall maintain a record of the STAR Facility fly ash and propane gas monthly throughput and annual throughput based on consecutive 12-month period, rolling monthly. NRG shall make such records available to MDE-ARMA upon request. Fly ash throughput records shall indicate the original source and date of receipt of the fly ash [COMAR 26.11.02.02H]. A-20. NRG shall maintain fuel usage, pollutant concentrations, volumetric flow rates, and any other records necessary to determine the STAR Facility SO_2, NO_X, and CO actual emissions. Emission shall be calculated monthly and annually based on a consecutive 12-month period, rolling monthly for comparison with the annual emission limits in Condition A-8 [COMAR 26.11.02.02H]. A-21. NRG shall maintain on file the following information related to the CEMS and make such records available to MDE-ARMA upon request: (a) CEMS or monitoring device performance testing measurements, including but not limited to volumetric flow rates, concentrations, and fuel emissions factors; (b) CEMS performance evaluations and data accuracy audit reports; (c) CEMS calibration checks; (d) Adjustments and maintenance performed on the CEMS; (e) Fuel sampling records required for CEMS calculations; and (f) All other data relevant to maintaining compliance with the emissions limits [COMAR 26.11.02.02H]

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
6.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall submit to the Department within 60 days after completion of the stack test the results of the visible emission observations taken during the annual stack testing of the stationary sources. **[Reference: CPCN 9229 condition A-26]** B. Control of Particulate Matter Emissions *From Confined Source:* The Permittee shall submit the maintenance plan and record of the maintenance activities to the Department upon request. **[Reference: COMAR 26.11.03.06C]** *From Unconfined Source:* The Permittee shall make available to the Department upon request records of the result of any inspection and maintenance activity performed. **[Reference: COMAR 26.11.03.06C]** C. Control of Sulfur Oxides Emissions See Operational Limits. D. Control of VOC Emissions See Best Management Plan Requirements listed under Control of Particulate Emissions. E. Operational Limits **[Reference: CPCN 9229 – Testing and Monitoring Requirements]** A-27. NRG shall submit a quarterly monitoring report to MDE-ARMA, postmarked by the 30th day following the end of each calendar quarter that includes the following information for the STAR Facility: (a) All instances of deviations from permit requirements; (b) Separately the date, time and duration of each startup, shutdown and malfunction that occurred at the STAR Facility including, but not limited to the ash beneficiation process and associated air pollution control systems. The report shall include total monthly and consecutive 12-month total hours of startup, shutdown and malfunction of the STAR Facility equipment; (c) The downtime or malfunction of the CEMS equipment. The report shall include the date and time of each period during which the CEMS was inoperative and the nature of monitoring system repairs or adjustments completed; (d) The STAR Facility monthly hours of operations and annual hours of operation based on a consecutive 12-month period, rolling monthly; (e) The propane gas monthly usage and annual usage based on a consecutive 12-month period, rolling monthly; and

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	(f) The annual emissions of SO_2, NO_X and CO for the STAR Facility based on a consecutive 12-motnh period, rolling monthly. An algorithm, including example calculations and emission factors, explaining the method used to determine emission rates shall be included in the initial quarterly monitoring report. Subsequent submittals of the algorithm and sample calculations are only required if NRG changes the method of calculating emissions or changes emissions factors, or if requested by MDE-ARMA [COMAR 26.11.02.02H]. A-28. NRG shall comply with the following conditions for occurrences of excess emission and deviations from the requirements of this permit: (a) Report any deviation from permit requirements that could endanger human health or environment, by orally notifying MDE-ARMA immediately upon discovery of deviation [COMAR 26.11.01.07C]. (b) Promptly report occurrences of excess emissions, inclusive of periods of start-up and shutdown, expected to last for one hour or longer by orally notifying MDE-ARMA of the onset and termination of the occurrences [COMAR 26.11.01.07C(1)] (c) When requested by MDE-ARMA, NRG shall report all deviations from permit conditions, including those attributable to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to MDE-ARMA. The written report must include the cause, dates and times of the onset and termination of the deviation, as well as the action planned or taken to reduce, eliminate and prevent the recurrence of the deviation [COMAR 26.11.02.02H] (d) When requested by MDE-ARMA, NRG shall submit a written report to MDE-ARMA within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.7C(2) [COMAR 26.11.01.07D(1)]. A-30. NRG shall monitor and report actual greenhouse gas (GHG) emissions in accordance with 40 CFR Part 98. Reporting is required to begin for actual GHG emissions that are generated in the calendar year in which the facility begins operation, with the report submitted electronically to EPA by 31 March of the following year and annually thereafter [40 CFR Part 98]. A-31. All records and logs required by this CPCN shall be maintained by NRG at the Morgantown STAR Facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of MDE-ARMA.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	A-32. All air quality notifications and reports required by this CPCN shall be submitted to [COMAR 26.11.01.05]: Air Quality Compliance Program Administrator Maryland Department of the Environment 1800 Washington Boulevard, Suite 715 Baltimore, Maryland 21230

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION V INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

(1) No. 6 Stationary internal combustion engines with an output less than 500 brake horsepower (373 kilowatts) and which are not used to generate electricity for sale or for peak or load shaving;

These *affected units* are subject to the following requirements:

(A) COMAR 26.11.09.05E(2), Emissions During Idle Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.

(B) COMAR 26.11.09.05E(3), Emissions During Operating Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.

(C) Exceptions:

(i) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

(ii) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(a) Engines that are idled continuously when not in service: 30 minutes
(b) all other engines: 15 minutes.

(iii) COMAR 26.11.09.05E(2) & (3) do not apply while maintenance, repair or testing is being performed by qualified mechanics.

(D) COMAR 26.11.36.03A(1), which establishes that the Permittee may not operate an emergency generator except for emergencies, testing and maintenance purposes.

(E) COMAR 26.11.36.03A(5), which establishes that the Permittee may not operate an emergency generator for testing and engine maintenance purposes between 12:01 a.m. and 2:00 p.m. on any day on which the Department forecasts that the air quality will be a code orange, code red, or code purple unless the engine fails a test and engine maintenance and a re-test are necessary.

(2) No. 3 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

These *affected units* are subject to COMAR 26.11.19.09D, which requires that the Permittee control emissions of volatile organic compounds (VOC) from cold degreasing operations by meeting the following requirements:

(a) COMAR 26.11.19.09D(2)(b), which establishes that the Permittee shall not use any VOC degreasing material that exceeds a vapor pressure of 1 mm Hg at 20°C;

(b) COMAR 26.11.19.09D(3)(a—d), which requires that the Permittee implement good operating practices designed to minimize spills and evaporation of VOC degreasing material. These practices, which shall be established in writing and displayed such that they are clearly visible to operators, shall include covers (including water covers), lids, or other methods of minimizing evaporative losses, and reducing the time and frequency during which parts are cleaned;

(c) COMAR 26.11.19.09D(4), which prohibits the use of any halogenated VOC for cold degreasing.

The Permittee shall maintain on site for at least five (5) years, and shall make available to the Department upon request, the following records of operating data:

(a) Monthly records of the total VOC degreasing materials used; and

(b) Written descriptions of good operating practices designed to minimize spills and evaporation of VOC degreasing materials.

(3) ✓ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;

(4) ✓ Brazing, soldering, or welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals and not directly related to plant maintenance, upkeep and repair or maintenance shop activities;

(5) Containers, reservoirs, or tanks used exclusively for:

(a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

(b) No. 15 Storage of lubricating oils;

(c) No. 6 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

(d) No. 1 Storage of motor vehicle gasoline and having individual tank capacities of 2,000 gallons (7.6 cubic meters) or less;

(6) ✓ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;

(7) ✓ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;

(8) ✓ Potable water treatment equipment, not including air stripping equipment;

(9) ✓ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act;

(10) ✓ Natural draft hoods or natural draft ventilators that exhaust air pollutants into the ambient air from manufacturing/industrial or commercial processes;

(11) ✓ Laboratory fume hoods and vents;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION VI STATE-ONLY ENFORCEABLE CONDITIONS

The Permittee is subject to the following State-only enforceable requirements:

Applicable Regulations:

COMAR 26.11.06.08 – Nuisance. "An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be consumed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution."

COMAR 26.11.06.09 - Odors. "A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created."

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

For By-Pass Stack:
F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Standards/Limits:

COMAR 26.11.09.05. – Visible Emissions.
"A. Fuel Burning Equipment.
(4) Fuel Burning Equipment Required to Operate a COM. The owner or operator of fuel burning equipment that is subject to the requirement to install and operate a COM shall demonstrate compliance with the applicable visible emissions limitation specified in §A(1) and (2) of this regulation as follows:
(a) For units with a capacity factor greater than 25 percent, until December 31, 2009, compliance is achieved if visible emissions do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4 percent of the unit's operating time in any calendar quarter, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity, except for 5.0 hours or 0.5 percent of the unit's operating time, whichever is greater;
(ii) Do not exceed 70.0 percent opacity for more than four (4) 6-minute periods, except that coal-fired units equipped with electrostatic precipitators may exceed 70.0 percent opacity for no more than 2.2 hours; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two (2) six-minute

periods;
(b) For units with a capacity factor greater than 25 percent, beginning January 1, 2010, compliance is achieved if visible emissions do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 2 percent of the unit's operating time in any calendar quarter, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity, except for 5.0 hours or 0.5 percent of the unit's operating time, whichever is greater;
(ii) Do not exceed 70.0 percent opacity for more than four (4) six-minute periods, except that coal-fired units equipped with electrostatic precipitators may exceed 70.0 percent opacity for no more than 2.2 hours; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods;
(c) For units with a capacity factor equal to or less than 25 percent that operate more than 300 hours per quarter, beginning July 1, 2009, compliance with the applicable visible emissions limitation in §A(1) and (2) of this regulation is achieved if, during a calendar quarter, visible emissions do not exceed the applicable standard for more than 20.0 hours, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity for more than 2.2 hours;
(ii) Do not exceed 70 percent for more than four 6-minute periods; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods; and
(d) For units with a capacity factor equal to or less than 25 percent that operate 300 hours or less per quarter, beginning July 1, 2009, compliance with the applicable visible emissions limitation in §A(1) and (2) of this regulation is achieved if, during a calendar quarter, visible emissions do not exceed the applicable standard for more than 12.0 hours, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity for more than 2.2 hours;
(ii) Do not exceed 70.0 percent opacity for more than four 6-minute periods; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods.
(5) Notwithstanding the requirements in §A(4) of this regulation, the Department may determine compliance and noncompliance with the visible emissions

limitations specified in §A(1) and (2) of this regulation by performing EPA reference Method 9 observations.
(6) In no instance shall excess emissions exempted under this regulation cause or contribute to a violation of any ambient air quality standard in 40 CFR Part 50, as amended, or any applicable requirements of 40 CFR Part 60, 61, or 63, as amended. "

"B. Determining Violations.
(1) For each unit required to operate a COM pursuant to COMAR 26.11.01.10A(1)(a) and (b), each day during a calendar quarter when the opacity of emissions from that unit during the calendar quarter or calendar day, as applicable, exceeds the emission limitations in §A(4)(a), (b), (c) and (d) of this regulation shall constitute a separate day of violation.
(2) A violation of §A(4)(a)(i), (ii), or (iii), §A(4)(b)(i), (ii) or (iii), §A(4)(c)(i), (ii) or (iii), or §A(4)(d)(i), (ii) or (iii), of this regulation, as applicable, that occur on the same day shall constitute separate violations.
(3) A daily violation that occurs during the same calendar quarter as a quarterly violation is a separate violation. "

"C. Fuel Burning Equipment Subject to Federal COM Requirements. Except for owners or operators of fuel burning equipment subject to any federal requirement that mandates operation of a COM and as provided in §D of this regulation, the owner or operator of fuel burning equipment required to install and operate a COM may discontinue the operation of the COM on fuel burning equipment that is served by a flue gas desulfurization device:
(1) When emissions from the equipment do not bypass the flue gas desulfurization device serving the equipment;
(2) When the flue gas desulfurization device serving the equipment is in operation;
(3) If the owner or operator has demonstrated to the Department's satisfaction, in accordance with 40 CFR §75.14, as amended, and all other applicable State and federal requirements, that water vapor is present in the flue gas from the equipment and would impede the accuracy of opacity measurements; and
(4) If the owner or operator has fully implemented an alternative plan, approved by the Department, for monitoring opacity levels and particulate matter emissions from the stack that includes:
(a) A schedule for monthly observations of visible emissions from the stack by a person trained to perform Method 9 observations; and
(b) Installation and operation of a particulate matter CEM that complies with all applicable State and federal requirements for particulate matter CEMs. "

"D. If, for units equipped with a flue gas desulfurization device, emissions bypass the device and are discharged through a bypass stack, the bypass stack shall be equipped with a COM approved by the Department."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

March 2008 Opacity Consent Decree

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

March 2008 Opacity Consent Decree
F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Requirements:

Control of Visible Emissions
Completed: **Consent Decree Section V. Evaluation of Opacity Exceedances, paragraphs 7, 8, 9, 10.**

Compliance Assurance Monitoring
Completed: **Consent Decree Section VII. Implementation of Interim and Final CAM Plans, paragraphs 11, 12, 13, 14, 15, 16, 17, 18.**

PM limit is 0.100 pounds per million Btu of heat input by stack test and 0.100 pounds per million Btu of heat input 24-hour rolling average by PEM. (Condition 32 and 40, March 2008 Consent Decree)

Particulate Matter Stack Testing
Completed: **Consent Decree Section VIII. Particulate Matter Stack Testing, paragraphs 26, 27, 28. *See letter dated October 6, 2011 – Petition to stop 170-day stack testing.***

Completed: **Consent Decree Section X. Installation of Particulate Matter CEMS, paragraph 31.**

Each PM CEMS shall be comprised of a continuous particle mass monitor or equivalent device measuring particulate matter concentration for Morgantown Units 1 and 2 in lbs/mm Btu on a 24-hour rolling average basis. NRG shall maintain, in an electronic database, the hourly average emission values recorded by all PM CEMS for five (5) years. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 32.]**

NRG shall use reasonable efforts to keep each PM CEMS operating and producing data whenever a Unit served by the PM CEMS is operating. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 33.]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

March 2008 Opacity Consent Decree
Completed: **Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 34.** NRG shall provide the Department with written notice of the date on which initial operation of each PM CEMS is commenced. No later than 90 days following initial operation of a PM CEMS, NRG shall submit to the Department for review and approval a proposed Quality/Assurance/Quality Control ("QA/QC") protocol for that PM CEMS, including a maintenance schedule, which shall be followed in calibrating and operating the PM CEMS. The protocol shall be developed in accordance with EPA Procedures 2 of Appendix F or 40 CFR Part 60 ("Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems Used at Stationary Sources"). NRG shall operate each PM CEMS in accordance with the approved protocol. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 35]** NRG shall submit quarterly PM CEMS reports to the Department that comply with COMAR 26.11.01.11E(2)(c)(i) through (vi). All data shall be reported in 24-hour rolling averages. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 36]** Not Applicable. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 37]** *Completed.* **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 38]** Unless otherwise required by State or federal law or regulation, upon initial operation of an FGD pollution control device on a Unit subject to this Consent Decree, NRG may discontinue use of opacity CEMs to monitor the opacity emissions from the stack serving such Unit, provided that: (a) emissions from such Unit do not bypass the FGD serving that Unit and FGD technology serving that Unit is in operation; (b) NRG has fully implemented an alternative plan for monitoring opacity levels and particulate matter emissions from the stack serving such Unit that has been approved by the Department; and (c) NRG has demonstrated to the satisfaction of the Department and the United States Environmental Protection Agency, in accordance with 40 CFR §75.14 and applicable EPA regulations, policy and guidelines, that condensed water is present in the flue gas stream from such Unit and would impede the accuracy of opacity measurements. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 39]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

March 2008 Opacity Consent Decree
Morgantown Units 1 and 2 shall be subject to a particulate matter emission limitation of **0.100 lbs/mmBtu heat input**. Compliance with the particulate matter limitation shall be demonstrated by stack test performed in accordance with Paragraphs 26 and 27, and by PM CEMs data in accordance with Section X, except that violations of the particulate matter emission limitation recorded by PM CEMs data shall be subject to §2-611 of the Environmental Article (Plan for Compliance). Violations of the particulate matter standard demonstrated by stack testing are not subject to a Plan for Compliance pursuant to §2-611 of the Environment Article and shall be subject to all sanctions and remedies available to the Department. **[Reference: Consent Decree Section XI. Particulate Matter Limitation Applicable to Morgantown Units 1 and 2, paragraph 40]** Not Applicable. **[Reference: Consent Decree Section XI. Particulate Matter Limitation Applicable to Morgantown Units 1 and 2, paragraph 41 & 42]** <u>Control of Sulfur Emissions</u> NRG shall ensure that each train of coal scheduled for delivery to the Morgantown Plant for combustion in Units 1 and 2 is sampled for sulfur content prior to delivery. NRG shall not burn coal that will cause SO_2 emissions in excess of 3.5 lbs/mm Btu heat input. [**Reference: Consent Decree Section III. Coal Sampling, paragraph 5]** <u>Truck Washing Facility</u> NRG shall commence operation of a Truck Washing Facility designed to reduce fugitive particulate matter emissions at the Morgantown Plant no later than September 30, 2008. Each Truck Washing Facility shall be installed to wash the wheels, undercarriage, and sides of all trucks used to haul fly ash and bottom ash to off-site storage facilities. Each Truck Washing Facility shall consist of a steel basin with ramps on either end, or an array of nozzles that spray high velocity jets of water on the bottom and sides of trucks as they are driven through the device. Water shall be recirculated through a filtration tank. Accumulated ash solids in each filtration tank shall be removed periodically and transported off site to an appropriate ash storage facility in accordance with all applicable local, State and Federal laws and regulations. The truck washing operation may be discontinued when ambient temperatures drop, or are expected to drop, below 36 degrees Fahrenheit, or otherwise when potential freezing would cause or contribute to unsafe conditions. [**Reference: Consent Decree Section XII. Truck Washing Facilities, paragraph 43]** <u>Mist Eliminators</u> NRG shall install and maintain a mist eliminator in each FGD/SO_2 absorber for Morgantown Units 1 and 2, as specified in each of NRG's separate applications for a CPCN to install FGD technology at the Plants. [**Reference: Consent**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

March 2008 Opacity Consent Decree
Decree Section XIII. Mist Eliminators, paragraph 44] By 12/31/2009. Reporting Requirements Beginning with the quarter that commences on January 1, 2008, NRG shall submit to the Department quarterly reports describing the status of NRG's compliance with the terms and conditions of the Consent Decree. Each quarterly report shall be due no later than 30 days following the end of the quarter, unless such date falls on a weekend or holiday, in which case the report shall be due on the next business day. The first quarterly report shall be due on April 30, 2008. **[Reference: Consent Decree Section XIV. Reporting, paragraph 45]** *Completed*. **[Reference: Consent Decree Section XIV. Reporting, paragraph 46]**

Emissions Unit Number(s): F1 and F2: Boilers [SCR Agreement]
F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)
Applicable Standards/Limits: The Permittee shall install and continuously operate two selective reduction (SCR) nitrogen oxide control devices on Units 1 and 2. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]** Subject to Paragraph 3 of this Agreement, NRG agrees that at all times when either Unit 1 or Unit 2 at the Morgantown Generating Station is operating with an SCR control device, particulate matter emissions from each operating Unit, individually, shall not exceed the emission limitation required by Code of Maryland Regulation (COMAR) 26.11.09.06A, or the Unit's baseline actual particulate matter emissions as determined by 40 CFR 52.21(b)(48), whichever is lower. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]** Where baseline actual particulate matter emissions from a Unit subject to this Agreement are lower than the emission limitation required by COMAR 26.11.09.06A, particulate matter emissions from such Unit may exceed the Unit's baseline actual emissions, if and only if, NRG obtains the Department's approval,

by written amendment to this Agreement, to reduce particulate matter emissions from one or more other emission units at the Morgantown Generating Station by an amount equivalent to the increase in actual particulate matter emissions resulting from the installation of the SCR control device. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

The ammonia emissions from Unit 1 and Unit 2, individually, shall not exceed 3 parts per million (ppm) determined by a stack test conducted on each Unit in accordance with EPA or Department approved test protocols no later than 180 days following the Unit's initial startup with the SCR control device. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

Testing Requirements:
The Permittee shall conduct a stack test for particulate matter emissions on each Unit in accordance with EPA or Department approved test methods no later than 180 days following the Unit's initial startup with the SCR control device.
[Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]

Monitoring Requirements:
COMAR 26.11.01.11 - Continuous Emission Monitoring Requirements.
"A. Applicability and Exemptions.
(1) The provisions of this regulation apply to:
(a) Fuel-burning equipment burning coal that has a rated heat input capacity of 100 million Btu per hour or greater."
"(2) An owner or operator that is required to install a CEM under any federal requirement is also subject to all of the provisions of this regulation."
B. General Requirements for CEMs.
"(1) An owner or operator subject to this regulation shall:
(a) Before installing a CEM, submit to the Department, for approval by the Department and EPA, a plan containing the CEM design specifications, proposed location, and a description of a proposed alternative measurement method; and
(b) Install and operate a CEM in accordance with the plan approved by the Department and EPA under the provisions of §B(1)(a) of this regulation. "
"(2) The owner or operator of fuel-burning equipment burning coal, with a heat input capacity of 100 million Btu per hour or greater, shall install CEMs to measure and record sulfur dioxide, nitrogen oxide, either oxygen or carbon dioxide, and flow."
"(4) Except as otherwise approved by the Department, if the owner or operator is unable to obtain emissions data from CEMs because of a malfunction of the

CEM for more than 2 hours in duration, the owner or operator shall use the alternative measurement method approved by the Department and EPA. "

"C. Quality Assurance for CEMs. A CEM used to monitor a gas concentration shall meet the quality assurance criteria of 40 CFR Part 60, Appendix F, as amended, which is incorporated by reference, or, if applicable, the quality assurance criteria of 40 CFR Part 75, Appendix B, as amended.

D. Monitoring and Determining Compliance.

(1) General. A CEM required by this regulation is the primary method used by the Department to determine compliance or non-compliance with the applicable emission standards established in any permit or approval, administrative or court order, Certificate of Public Convenience and Necessity, or regulation in this subtitle.

(2) Data Reduction. A CEM used to monitor a gas concentration shall record not less than four equally spaced data points per hour and automatically reduce data in terms of averaging times consistent with the applicable emission standard.

E. Record Keeping and Reporting Requirements.

(1) CEM System Downtime Reporting Requirements.

(a) All CEM system downtime that lasts or is expected to last more than 24 hours shall be reported to the Department by telephone before 10 a.m. of the first regular business day following the breakdown.

(b) The system breakdown report required by §E(1)(a) of this regulation shall include the reason, if known, for the breakdown and the estimated period of time that the CEM will be down. The owner or operator of the CEM shall notify the Department by telephone when an out-of-service CEM is back in operation and producing data that has met performance specifications for accuracy, reliability, and durability of acceptable monitoring systems, as provided in COMAR 26.11.31, and is producing data.

(2) CEM Data Reporting Requirements.

(a) All test results shall be reported in a format approved by the Department.

(b) Certification testing shall be repeated when the Department determines that the CEM data may not meet performance specifications because of component replacement or other conditions that affect the quality of generated data.

(c) A quarterly summary report shall be submitted to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by the Department, and shall include the following:

(i) The cause, time periods, and magnitude of all emissions which exceed the applicable emission standards;

(ii) The source downtime including the time and date of the beginning and end of each downtime period and whether the source downtime was planned or unplanned;

(iii) The time periods and cause of all CEM downtime including records of any repairs, adjustments, or maintenance that may affect the ability of the CEM to meet performance specifications of emission data;

(iv) Quarterly totals of excess emissions, installation downtime, and CEM

downtime during the calendar quarter;
(v) Quarterly quality assurance activities;
(vi) Daily calibration activities that include reference values, actual values, absolute or percent of span differences, and drift status; and
(vii) Other information required by the Department that is determined to be necessary to evaluate the data, to ensure that compliance is achieved, or to determine the applicability of this regulation.
(d) All information required by this regulation to be reported to the Department shall be retained and made available for review by the Department for a minimum of 2 years from the time the report is submitted. "

Reporting Requirements:
The Permittee shall submit a stack test protocol to the Department for approval and notify the Department of the scheduled test date at least thirty-(30) days in advance of the test. The Permittee shall submit the stack test results to the Department no later than forty-five (45) days following completion of the test.
[Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

Alternate Operating Scenario for Emission Units F1 & F2

The Permittee shall burn used oil and boiler chemical cleaning waste materials in the utility boilers.

COMAR 26.11.09.10 - Requirements to Burn Used Oil and Waste Combustible Fluid as Fuel.

Applicable Regulations:
A. "General Requirements.
(1) A person who proposes to burn used oil or waste combustible fluid in an installation shall submit the following information to the Department:
(a) A description of, and the location of, each fuel-burning equipment or other installation in which the used oil or WCF is to be burned and the rated heat input capacity of each;
(b) The type and amount of fuel currently being used in each installation and the gallons of used oil or WCF expected to be burned annually;
(c) The maximum percentage of used oil or WCF to be burned as fuel in each installation; and
(d) An analysis by an independent laboratory of a representative sample of the

used oil or WCF, which shall include the concentration of each of the materials listed in §B of this regulation, the PCB concentration, and the flash point.

(2) A person may burn on-specification used oil in any installation upon submitting the information required in §A(1) of this regulation.
(3) A person who is burning used oil or WCF under a current approval issued by the Department may continue to burn the approved material if:
(a) The person registers the equipment that is burning the used oil or WCF by submitting the information required in §A(1) of this regulation; and
(b) The used oil or WCF is being burned in an authorized installation.

(4) A person who proposes to burn off-specification used oil or WCF in an installation other than a space heater, as provided in 40 CFR §279.23, is subject to the permit or registration requirements in COMAR 26.11.02.
(5) A person who receives a permit or registration to burn used oil or WCF shall burn only the materials authorized in the permit or registration.
(6) A person may burn off-specification used oil and waste combustible fluid only in those installations listed at 40 CFR §279.12(c)."

B "Specifications for Used Oil.
(1) Except as provided in §B(2) of this regulation, used oil specifications are as follows:

Material	Allowable Level
(a) Lead	100 ppm
(b) Total halogens	4,000 ppm
(c) Arsenic	5 ppm
(d) Cadmium	2 ppm
(e) Chromium	10 ppm
(f) Flash point	100° F minimum

(2) For used oil that does not satisfy the rebuttable presumption for halogens at 40 CFR 279.10(b)(1)(ii) and 279.63, the maximum allowable level for halogens may not exceed 1,000 ppm."

Record keeping
The Permittee shall maintain a record of the quantity of used oil that is burned and analyses by an independent laboratory of representative samples of the used oil.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Healthy Air Act Requirements
These regulations became effective under an Emergency Action on January 18, 2007 and were adopted as permanent regulations on June 17, 2007. They implement the requirements of the Healthy Air Act (Ch. 23, Acts of 2006), which was signed into law on April 6, 2006 and which established emission limitations and related requirements for NO_X, SO_2 and mercury. Regulations .1-.03, .03E, .05 and .06 related to the reductions of NO_X, and SO_2 emissions were submitted to EPA as a revision to Maryland's State Implementation Plan (SIP) on June 12, 2007. The requirements for NO_X, and SO_2 emissions, all except for one were approved by EPA, as a SIP revision on September 4, 2008 with an effective date of October 6, 2008. The requirements for mercury emissions are not part of the Maryland's SIP and are therefore, part of the State-Only Section.

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Regulations:
COMAR 26.11.27 - Emission Limitations for Power Plant
COMAR 26.11.27.03 – General Requirements
A. An electric generating unit subject to this chapter shall comply with the emission limitations for NO_X, SO_2, and mercury as provided in this regulation.
B. NO_X Emission Limitations.
Healthy Air Act State-Only enforceable NO_X requirement
COMAR 26.11.27.03B(7)(iii) – "Not later than December 31 of the year in which the emission limitation is exceeded, the owner or operator of the affected generating unit or units transfers to the Maryland Environmental Surrender Account, ozone season NO_X allowances equivalent in number to the tons of NO_X emitted in excess of the emission limitation in §B(4) or (6), as applicable".

COMAR 26.11.27.03D. Mercury Emission Limitations.
(1) For the 12 months beginning January 1, 2010 and ending with the 12 months beginning December 1, 2012 to December 1, 2013, each affected facility shall meet 12-month rolling average removal efficiency for mercury of at least 80 percent.
(2) For the 12 months beginning January 1, 2013 and thereafter, each affected facility shall meet 12-month rolling average removal efficiency for mercury of at least 90 percent.
(3) The mercury removal efficiency required in §D(1) and (2) of this regulation shall be determined in accordance with Regulation .04 of this chapter.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

COMAR 26.11.27.04 - Determining the Mercury Removal Efficiency for Affected Facilities.

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

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

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

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

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

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

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

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

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

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

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

Completed

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

C. Determining the Uncontrolled Mercury Flue Gas Baseline for an Affected Facility.
(1) The uncontrolled mercury emission rate in the flue gas of each electric generating unit subject to this chapter shall be determined as the arithmetic average of the quarterly combustion gas tests required by §B of this regulation expressed as ounces per trillion Btu heat input.
(2) The uncontrolled mercury baseline emission rate for an affected facility shall be determined as the heat input weighted average of the emission rates for the coal-fired electric generating units at the affected facility determined in accordance with §C(1) of this regulation.
(3) The uncontrolled mercury baseline emission rate in §C(1) and (2) of this regulation shall be measured upstream of all pollution control measures, including fuel mercury beneficiation. *Completed*

D. Demonstrating Compliance By Measuring Mercury Removal Efficiency.
Compliance with the required mercury removal efficiency is demonstrated at an affected facility when the heat input weighted average of the mercury emission rate of all coal-fired electric generating units at the affected facility, calculated as a 12-month rolling average, is:
(1) For the 12-month period commencing on January 1, 2010, not more than 20 percent of the uncontrolled mercury emission rate established pursuant to §C of this regulation; and
(2) For the 12-month period commencing January 1, 2013 and thereafter, not more than 10 percent of the uncontrolled mercury emission rate established pursuant to §C of this regulation.

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

Affected Facility	Emission Limits Ounces per Trillion Btu Heat Input Beginning	
	January 1, 2010	January 1, 2013
Morgantown	27	14

F. Demonstrating Compliance by Meeting a Mercury Mass Emission Cap.
(1) Compliance with the required mercury removal efficiency is demonstrated at an affected facility when the mass emissions from all affected facilities in a system, measured in pounds as a 12-month rolling average, do not exceed the

applicable emission limits in §F(2) of this regulation.

(2) Mercury Emission Limits.

Affected Facility	Emission Limits Pounds per Year Beginning	
	January 1, 2010	January 1, 2013
Morgantown	127	66

(3) In the event that an electric generating unit at an affected facility subject to this chapter permanently ceases operation, the mass emission limitation in §F(2) of this regulation which is applicable to that affected facility shall be reduced proportionally based on the relative capacity, in megawatts, of all the electric generating units at the affected facility which are subject to this regulation.
(4) In the event that an entire affected facility within a system permanently ceases operation, the total mass emission limitation in §F(2) which is applicable to the system shall be reduced by the mass emission limitation applicable to the affected facility.
(5) Except during periods of startup, shutdown, malfunction or maintenance, the owner or operator of an electric generating unit shall ensure that mercury control measures are continuously employed on each unit and properly adjusted for optimal control taking into consideration the operating conditions.

COMAR 26.11.27.05 - Monitoring and Reporting Requirements.
A. Compliance with the emission limitations in this chapter shall be demonstrated with a continuous emission monitoring system that is installed, operated, and certified in accordance with 40 CFR Part 75.

COMAR 26.11.27.05 - Monitoring and Reporting Requirements.
B. Beginning with calendar year 2007 and each year thereafter, the owner or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year.

C. Each report shall include:
(1) Emissions performance results related to compliance with the emission requirements under this chapter;
(2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit;
(3) A current compliance plan; and
(4) Any other information requested by the Department.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Regulations:

Management of Coal Combustion Byproducts

COMAR 26.04.10.03 - General Restrictions and Specifically Prohibited Acts.
(1) COMAR 26.04.10.03B(3) - Air Pollution
"(a)A person may not engage in the disposal, storage, transportation, processing, handling, or use of coal combustion byproducts without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include, when appropriate as determined by the Department, those precautions described in COMAR 26.11.06.03C and D."

"(b) In addition to the requirements of paragraph (a), a person may not transport coal combustion byproducts without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include, at a minimum the following:
(i)Vehicles transporting coal combustion byproducts shall be fully enclosed, or fully enclosed on all sides and covered with a firmly secured canvas or similar type covering, so as to prevent any coal combustion byproducts from blowing off, falling off, or spilling out of the vehicle or the coal combustion byproducts shall be handled and transported in sealed containers designed for transportation of powdery solids;
(ii)Before leaving a site where coal combustion byproducts are loaded or off-loaded, vehicles transporting coal combustion byproducts shall be rendered clean and free of excess material or debris that could blow off, fall off, or spill during transport;
(iii)Coal combustion byproducts being loaded into or off-loaded from a vehicle shall be sufficiently moistened or otherwise conditioned or contained to prevent particulate coal combustion byproducts from becoming airborne or causing fugitive air emissions; and
(iv)Transporters of coal combustion byproducts shall maintain an inspection log that shall be maintained in each vehicle at all times during transport of coal combustion byproducts that shall certify compliance with the standards in this regulation .03B(3)(b)."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY, NEWBURG, MD 20664
PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number(s): STAR

The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization scrubber system. Exhaust gases are directed through a 125 foot stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems. (**6-0150 (CPCN 9229)**)

[Reference: CPCN 9229]
A-36. Annual emissions from the Morgan STAR Facility shall be less than the following in consecutive 12-month period, rolling monthly, inclusive of emissions during periods of startup, shutdown and malfunction:

Pollutant	**Emission Limit for Entire Morgantown STAR Facility (pounds per year)**
Mercury (Hg)	5

A-37. NRG shall conduct annual performance stack tests of the STAR process reactor to determine compliance with COMAR Title 26, Subtitle 11 for mercury [COMAR 26.11.01.04A. The performance stack tests shall be conducted with a representative composite of fly ash typically combusted in the STAR process reactor at that time. NRG shall submit a stack test protocol to MDE-ARMA for approval, in accordance with Condition A-25.

A-38. NRG shall analyze samples of the unprocessed fly ash entering the STAR process reactor and the processed fly ash exiting the STAR process reactor or mercury concentration on a monthly basis.

A-39. NRG shall submit a quarterly monitoring report to MDE-ARMA, postmarked by the 30th day following the end of each calendar quarter that includes the following information for the STAR Facility:
(a) The actual emissions of mercury for the STAR Facility based on a consecutive 12-month period, rolling monthly. An algorithm, including example calculations, emissions factors, and monthly throughput, explaining the method used to determine emission rates shall be submitted to MDE-ARMA for review and approval at least 60 days prior to the initial quarterly monitoring report. Subsequent submittals of the algorithm and sample calculations are only required if NRG changes the method of calculating emissions, changes

emissions factors, or if requested by MDE-ARMA; and
(b) The analysis results for the monthly samples of the unprocessed fly ash and processed fly ash required under Condition A-38.

A-40. NRG shall maintain any records necessary to determine the STAR Facility mercury actual emissions. Emissions shall be calculated monthly and annually based on a consecutive 12-month period, rolling monthly for comparison with the annual emission limit in Condition A-36.

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

COMAR 26.11.38 – Control of NO_X Emissions from Coal-Fired Electric Generating Units.

Applicable Regulations:

COMAR 26.11.38.02 – Applicability
"The provisions of this chapter apply to an affected electric generating unit as that term is defined in §.01B of this chapter."

COMAR 26.11.38.03 – NO_X Emission Control Requirements
A. Daily NO_X Reduction Requirements During the Ozone Season
(1) Not later than 45 days after the effective date of this regulation, the owner or operator of an affected electric generating unit shall submit a plan to the Department and EPA for approval that demonstrated how each affected electric generating unit ("the unit") will operate installed pollution control technology and combustion controls to meet the requirements of §A(2) of this regulation. The plan shall cover all modes of operation, including but not limited to normal operations, start-up, shut-down and low load operations.
(2) Beginning on May 1, 2015, for each operating day during the ozone season, the owner or operator of an affected electric generating unit shall minimize NO_X emissions by operating and optimizing the use of all installed pollution control technology and combustion controls consistent with the technological limitations, manufacturers' specification, good engineering and maintenance practices, and good air pollution control practices for minimizing emissions (as defined in 40 CFR §60.11(d)) for such equipment and the unit at all times the unit is in operation while

burning any coal.

B. Ozone Season NO_X Reduction Requirements.
(1) Except as provided in §B(3) of this regulation, the owner or operator of an affected electric generating unit shall not exceed a NO_X 30-day system-wide rolling average emission rate of 0.15 lbs/MMBtu during the ozone season.
(2) The owner or operator of an affected electric generating unit subject to the provisions of this regulation shall continue to meet ozone season NO_X reduction requirements in COMAR 26.11.27.

C. Annual NO_X Reduction Requirements.
The owner of operator of an affected electric generating unit subject to the provisions of this regulation shall continue to meet the annual NOX reduction requirements in COMAR 26.11.27.

COMAR 26.11.38.04 – Compliance Demonstration Requirements
A. Procedures for demonstrating compliance with §.03(A) of this chapter.
(1) An affected electric generating unit shall demonstrate, to the Department's satisfaction, compliance with §.03(A)(2) of this chapter, using the information collected and maintained in accordance with §.03(A)(1) of this chapter and any additional demonstration available to and maintained by the affected electric generating unit.
(2) An affected electric generating unit shall not be required to submit a unit-specific report consistent with §A(3) of this regulation when the unit emits at levels that are at or below the following rates:

Affected Unit	24-Hour Block Average NO_X Emissions in lbs/MMBtu
Morgantown	
Unit 1	0.07
Unit 2	0.07

(3) The owner or operator of an affected electric generating unit subject to §.03(A)(2) of this chapter shall submit a unit-specific report for each day the unit exceeds its NO_X emission rate of §A(2) of this regulation, which shall include the following information for the entire operating day:
(a) Hours of operation for the unit;
(b) Hourly averages of operating temperature of installed pollution control technology;
(c) Hourly averages of heat input (MMBtu/hr);
(d) Hourly averages of output (MWh);
(e) Hourly averages of Ammonia or urea flow rates;
(f) Hourly averages of NO_X emissions data (lbs/MMBtu and tons);

(g) Malfunction data;
(h) The technical and operational reason the rate was exceeded, such as:
(i) Operator error;
(ii) Technical events beyond the control of the operator (e.g. acts of God, malfunction); or
(iii) Dispatch requirements that mandate unplanned operation (e.g. start-ups and shut-down, idling and operation at low voltage or low load)
(i) A written narrative describing any actions taken to reduce emission rates; and
(j) Other information that the Department determines is necessary to evaluate the data or to ensure that compliance is achieved.

(4) An exceedance of the emissions rate if §A(2) of this regulation as a result of factors including but not limited to start-up and shut-down, days when the unit was directed by the electric grid operator to operate at low load or to operated pursuant to any emergency generation operations required by the electric grid operator, including necessary testing for emergency operations, or to have otherwise occurred during operations which are deemed consistent with the unit's technological limitations, manufacturers' specifications, good engineering and maintenance practices, and good air pollution control practices for minimizing emissions, shall not be considered a violation of §.03A(2) of this chapter provided that the provisions of the approved plan as required in §.03A(1) of this chapter are met.

B. Procedures for demonstrating compliance with NO_X emission rates of this chapter.

(1) Compliance with the NO_X emission rate limitations in §.03B(1), §.03D(2), and §.04A(2) of this chapter shall be demonstrated with a continuous emission monitoring system that is installed, operated, and certified in accordance with 40 CFR Part 75.

(2) For §.03B(1) of this chapter, in order to calculate the 30-day system-wide rolling average emissions rated, if twenty-nine system operating days are not available from the current ozone season, system operating days from the previous ozone season shall be used.

COMAR 26.11.38.05 – Reporting Requirements

A. Reporting Schedule

(1) Beginning 30 days after the first month of the ozone season following the effective date of this chapter, each affected electric generating unit subject to the requirements of this chapter shall submit a monthly report to the Department detailing the status of compliance with this chapter during the ozone season.

(2) Each subsequent monthly report shall be submitted to the Department not later than 30 days following the end of the calendar month during the

ozone season.

B. Monthly Reports During Ozone Season.

Monthly reports during the ozone season shall include:

(1) Daily pass or fail of the NO_X emission rates of §.04A(2) of this chapter.

(2) The reporting information as required under §.04A(3) of this chapter.

(3) The 30-day system-wide rolling average emissions rate for each affected electric generating unit to demonstrate compliance with §.03B(1) of this chapter.

STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT,	*	IN THE
	*	CIRCUIT COURT
Plaintiff	*	FOR
v.	*	PRINCE GEORGE'S
MIRANT MID-ATLANTIC, LLC	*	COUNTY,
and	*	MARYLAND
MIRANT CHALK POINT, LLC,	*	Civil Action No.:
Defendants.	*	

CL08-7925

RECEIVED
MAY 09 2008
MD. Dept of the Environment
Office Of The Attorney General

* * * * * * * * * * * * * *

CONSENT DECREE

Plaintiff, State of Maryland, Department of the Environment ("Department" or "MDE") and Defendants, Mirant Mid-Atlantic, LLC ("Mirant Mid-Atlantic") and Mirant Chalk Point, LLC ("Mirant Chalk Point" and collectively "Mirant") hereby present and aver that they enter into this Consent Decree under the following terms and conditions.

WHEREAS, Mirant Chalk Point owns and operates the Chalk Point electric generating station (the "Chalk Point Plant") located in Prince George's County, Maryland. Mirant Mid-Atlantic owns the real estate where the Morgantown electric generating station (the "Morgantown Plant") in Charles County, Maryland and the Dickerson electric generating station (the "Dickerson Plant") in Montgomery County are located, and operates both plants pursuant to separate lease agreements;

WHEREAS, the Morgantown Plant consists, in relevant part, of two (2) identical base load coal-fired electric steam generating units identified as Units 1 and 2, each rated at 640 MW, and six combustion turbines (CTs 1 through 6). Combustion gases from Units 1 and 2 are

Entered 4/11/08

discharged through separate stacks. Particulate matter emissions from Units 1 and 2 are controlled by separate electrostatic precipitators ("ESPs") on each stack;

WHEREAS, the Chalk Point Plant consists, in relevant part, of two coal-fired electric steam generating units, Units 1 and 2, each with a rated capacity of 355 MW. Units 1 and 2 share a common stack. Particulate matter emissions from Units 1 and 2 are controlled by an ESP.

WHEREAS, the Dickerson Plant consists, in relevant part, of three coal-fired units, Units 1, 2 and 3, each with a rated capacity of 191 MW. Units 1, 2 and 3 share a common stack. Particulate emissions from the three units are controlled by an ESP on each of the three Units and a single baghouse shared by all Units.

WHEREAS, all three plants are subject to emission limitations and other requirements applicable to fuel burning equipment as provided in Title 2 of the Environment Article and Code of Maryland Regulations ("COMAR") 26.11.02, 26.11.03 and 26.11.09;

WHEREAS, the Maryland Public Service Commission has issued Certificates of Public Convenience and Necessity ("CPCN") authorizing installation of four flue gas desulfurization ("FGD") devices, which Mirant is choosing to install to achieve compliance with the Maryland Healthy Air Act by reducing sulfur dioxide ("SO_2") emissions from Morgantown Units 1 and 2, Chalk Point Units 1 and 2 and Dickerson Units 1, 2 and 3, and which are projected to be installed by January 1, 2010;

WHEREAS, the Morgantown Plant is subject to COMAR 26.11.09.06A, which prohibits particulate emissions from Units 1 and 2 in excess of 0.14 pounds per million Btu ("lbs/mmBtu");

WHEREAS, the Morgantown Plant is subject to COMAR 26.11.09.07A(1)(a), which prohibits emissions of sulfur oxides from solids fuel burning equipment located in Area V of the State in excess of 3.5 lbs/mmBtu heat input per hour;

WHEREAS, COMAR 26.11. 03.01A(l) requires "major sources" of air pollution, as defined in COMAR 26.11.02.01C, to apply for an operating permit pursuant to Title V of the federal Clean Air Act ("CAA"), CAA §§ 501 through 507, 42 U.S.C. §§ 7661 through 7661f. The Morgantown, Chalk Point and Dickerson Plants are "major sources" and are subject to the Title V operating permit requirements. The Department issued a Title V operating permit for the Morgantown Plant on October 18, 2001. Applications for Title V operating permits are pending for the Chalk Point and Dickerson Plants;

WHEREAS, COMAR 26.11.02.05 requires compliance with all terms and conditions of air quality control permits issued by the Department;

WHEREAS, COMAR 26.11.03.02B(3) requires submission of a complete application for renewal of a Title V permit not later than six (6) months prior to the expiration date of the existing permit. COMAR 26.11.03.02C(3) requires submission of any additional information the Department determines is necessary to process the renewal application in accordance with deadlines established by the Department;

WHEREAS, the Morgantown Plant is subject to COMAR 26.11.09.05A(l), which prohibits visible emissions in excess of 20% opacity, measured as a six-minute block average, from a facility located in Area V of the State. The Chalk Point and Dickerson Plants are subject to COMAR 26.11.09.05A(2), which prohibits all visible emissions (emissions equal to or greater than 10% opacity, measured as a six-minute block average), other than water in an uncombined form, in Area IV of the State;

WHEREAS, the Morgantown, Chalk Point and Dickerson Plants are all subject to COMAR 26.11.01.10B(1), which requires fuel burning equipment with a heat input capacity of 250 million Btu per hour or greater that burns coal or fuel oil to be equipped with a continuous

emission monitoring system ("CEMS") to measure opacity. The coal-fired units at the each of the plants are equipped with an opacity CEMS to continuously monitor and record opacity levels. Mirant is required to submit quarterly opacity CEMS data to the Department pursuant to COMAR 26.11.01.10(G)(2)(d);

WHEREAS, the Morgantown, Chalk Point and Dickerson Plants are subject to COMAR 26.11.01.10(G)(2)(d), which requires Mirant to submit to the Department a quarterly report including the causes, time periods and magnitude of all emissions which exceed applicable opacity emission limitations;

WHEREAS, in 1990, the Department adopted Technical Memorandum (TM) 90-01, "Continuous Emission Monitoring (CEM) Policies and Procedures," which establishes quality assurance procedures and sets forth the Department's enforcement policy for exceedances of opacity limitations as determined by opacity CEMS data. COMAR 26.11.01.10E incorporates TM 90-01 by reference. COMAR 26.11.01.11D(2) provides that when an opacity CEMS is used to monitor opacity the Department will apply TM 90-01;

WHEREAS, TM 90-01 authorizes civil or administrative enforcement action by the Department for exceedances of the applicable opacity standard which occur less than 5% of a unit's operating time during a calendar quarter if such exceedances occur for two or more calendar quarters; TM 90-01 characterizes opacity readings of less than 10% on an opacity CEMS as equivalent to "no visible emissions";

WHEREAS, to ensure that the six combustion turbines at the Morgantown Plant comply with applicable visible emission standards, Section IV of the Morgantown Plant's current Title V operating permit requires Mirant to perform an EPA "Reference Method 9 Observation" of stack

emissions from each of the six combustion turbines for an 18-minute period once every 168 hours of operation on oil, or at a minimum, once per year;

WHEREAS, a particulate stack test was performed on Morgantown Unit 1 on June 28 and June 30, 2005 that reported particulate emissions of 0.494 lbs/mm Btu heat input, in violation of COMAR 26.11.09.06A;

WHEREAS, the Morgantown Plant reported violations of COMAR 26.11.09.07 for exceedances of the sulfur oxide standard on June 29, 2005, and January 27 and 28, 2006. Mirant has documented that these exceedances were attributable to its coal supplier having provided coal that did not meet specifications for sulfur content;

WHEREAS, during a June 23, 2006 inspection of the Morgantown Plant, a Department inspector determined that Combustion Turbines 1 through 6 each had operated more than 168 hours without the performance of a Method 9 Observation, in violation of COMAR 26.11.02.05 and Section IV of the Morgantown Plant's Title V operating permit.

WHEREAS, in order to avoid future violations of the visible emissions monitoring requirements as they apply to the combustion turbines, Mirant has installed a software tracking program to monitor the operating hours of each combustion turbine and alert operators to perform Method 9 Observations when required by the Plant's Title V operating permit;

WHEREAS, Mirant submitted an application for renewal of the Morgantown Title V operating permit on March 31, 2006. By letter of April 6, 2006, the Department advised Mirant that the Compliance Assurance Monitoring (CAM) plan for particulate matter submitted as part of the renewal application was not acceptable because it was not "comprehensive." The Department directed Mirant to submit an acceptable CAM plan by June 7, 2006, in accordance with COMAR 26.11.03.02C(3). Attached to the April 6, 2006 letter was a copy of United States Environmental

Protection Agency ("EPA") guidance for developing a CAM plan for electrostatic precipitators controlling particulate matter emissions from coal-fired boilers;

WHEREAS, Mirant submitted a revised CAM plan on June 15, 2006. The Department alleges that the revised CAM plan failed to comply with EPA's guidance and failed to address the deficiencies of the previously submitted plan;

WHEREAS, by letter dated July 14, 2006, the Department advised Mirant that the revised plan submitted on June 15, 2006 did not fully correct the deficiencies and directed Mirant to submit, by August 14, 2006, a schedule for completion of a CAM plan that addressed specified deficiencies;

WHEREAS, on October 16, 2006, Mirant submitted a schedule for completion of the CAM plan, which included interim milestone deadlines for submission of various components of the CAM plan. The proposed schedule provided for submission of a final CAM plan on January 31, 2007;

WHEREAS, Mirant failed to comply with the interim milestone deadlines in the schedule and failed to submit a final CAM plan by the January 31, 2007 deadline.

WHEREAS, on February 9, 2007, Mirant submitted a third proposed CAM plan for the Morgantown Plant, which upon review, the Department determined remained unacceptable;

WHEREAS, Mirant subsequently submitted a revised proposed CAM plan for the Morgantown Plant that was approved by the Department on June 15, 2007;

WHEREAS, during the period from January 1, 2004 through December 31, 2007, Mirant has reported repeated violations of the applicable visible emissions limitations as specified in COMAR 26.11.09.05A by each coal-fired unit at the Morgantown, Chalk Point and Dickerson Plants;

WHEREAS, during the period from December 2003 through September 2007, Mirant failed to report opacity exceedances of less than 10.5% from the stack serving Dickerson Units 1, 2 and 3, in violation of COMAR 26.11.01.10(G)(2)(d).

WHEREAS, Mirant expects operation of the FGD devices installed to achieve future compliance with the Maryland Healthy Air Act at the Morgantown, Chalk Point and Dickerson Plants to significantly reduce particulate matter emissions from the coal-fired units at each of the Plants;

WHEREAS, contemporaneously with the lodging of this Consent Decree, the Department filed a Complaint alleging violations of:

(a) COMAR 26.11.09.05A (visible emissions) by all of the coal-fired units at the Morgantown, Chalk Point and Dickerson Plants;

(b) violations of COMAR 26.11.09.07A(1)(a) (sulfur oxides emission limitations) by Morgantown Units 1 and 2;

(c) violations of COMAR 26.11.02.05 and the Section IV of the Title V operating permit provisions (Method 9 Observations) applicable to Morgantown Combustion Turbines 1 through 6;

(d) violations of COMAR 26.11.09.06A (particulate matter emission limitations) by Morgantown Unit 1; and

(e) violations of COMAR 26.11.03.02C(3) (submissions requested for Title V operating permit renewal application), as it applies to the renewal application for the Morgantown Plant;

WHEREAS, the parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated in good faith and at arm's length and that this Consent Decree is a fair and reasonable resolution of the Department's claims as alleged in the

Complaint, is consistent with the goals of Title 2 of the Environment Article and the implementing regulations, and is in the best interest of the parties and the public; and

WHEREAS, the parties have consented to entry of this Consent Decree without trial of any issue;

NOW, THEREFORE, without any admission of fact or law, and without any admission of the violations alleged in the Complaint, it is hereby ORDERED, ADJUDGED and DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action pursuant to §§ 1-501 and 6-103 of the Courts and Judicial Proceedings Article of the Maryland Code, §§ 2-609 and 2-610 of the Environment Article and Maryland Rule 15-501.

2. Venue is proper in this Court pursuant to § 6-201 of the Courts and Judicial Proceedings Article because one of the three electric generating stations at which the alleged violations which are the subject of this Complaint occurred is located in Prince George's County and Mirant Chalk Point regularly conducts business in Prince George's County.

II. APPLICABILITY

3. Notwithstanding any other provision in this Consent Decree, the obligations relating to the Chalk Point Plant shall be borne exclusively by Mirant Chalk Point, and the obligations related to the Morgantown and Dickerson Plants shall be borne exclusively by Mirant Mid-Atlantic. The provisions of this Consent Decree shall apply to and be binding on Mirant and its successors and assigns, including any transferee of any legal or equitable interest (including Mirant Mid-Atlantic's interest as a lessee) in the Morgantown, Chalk Point or Dickerson Plants. Mirant shall be responsible for ensuring compliance with the terms and conditions of this Consent

Decree by Mirant's officers, employees, agents and contractors. Before the transfer of any legal or equitable interest in Mirant or the Morgantown, Chalk Point or Dickerson Plants, Mirant shall provide a copy of this Consent Decree to the prospective successor-in-interest. In any action to enforce this Consent Decree, Mirant shall not assert as a defense the failure of its officers, directors, employees, agents or contractors to take any action necessary to comply with this Consent Decree. This Paragraph does not apply to transfers of interest that consist solely of the creation of a lienhold interest.

4. Any agreement for the transfer of any legal or equitable interest in Mirant, or the Morgantown, Chalk Point or Dickerson Plants shall provide that the transferee shall comply fully with the terms of this Consent Decree and that the Department may enforce the terms of this Consent Decree against the transferee. Mirant agrees that within twenty (20) business days following the consummation of any agreement for the transfer of any such legal or equitable interest, Mirant will provide the Department with a copy of the portion(s) of the agreement evidencing its compliance with the requirements of this Paragraph and Paragraph 3.

III. COAL SAMPLING

5. To address the SO_2 emission limitation violations attributable to the excessive sulfur content of the coal delivered to Morgantown Units 1 and 2, Mirant Mid-Atlantic shall ensure that each train of coal scheduled for delivery to the Morgantown Plant for combustion in Units 1 or 2 is sampled for sulfur content prior to delivery. Mirant Mid-Atlantic will not burn coal that will cause SO_2 emissions in excess of 3.5 lbs/mm Btu heat input.

IV. MONITORING OPERATING HOURS

6. Commencing with the effective date of this Consent Decree, Mirant Mid-Atlantic shall utilize the computer software program previously installed, or an equivalent computer

software program, to prompt the tracking review of the operating hours of each combustion turbine at the Morgantown Plant and to alert Plant personnel to conduct Method 9 Observations as required by Section IV of the Plant's Title V operating permit.

V. EVALUATION OF OPACITY EXCEEDANCES

7. No later than sixty (60) days following the effective date of this Consent Decree, Mirant shall: (a) submit to the Department corrected quarterly emissions reports for the period from December 2003 through September 2007 that include all exceedances of the opacity emission limitation applicable to the stack serving Dickerson Units 1, 2 and 3; and (2) complete a detailed analysis of all opacity exceedances that have been reported at the Morgantown, Chalk Point and Dickerson Plants during the period from January 1, 2007 through December 31, 2007, and submit to the Department for review and approval, a report which describes the evaluation process, identifies the cause(s) of the exceedances to the extent possible, contains recommendations for improvements to address opacity exceedances in addition to the measures otherwise required by this Consent Decree, and proposes a schedule for full implementation of the recommended improvements no later than December 31, 2008. Recommendations for improvements may be developed with consideration given to reduced particulate matter emissions Mirant expects will result from operation of the FGD devices that Mirant is choosing to install at the Morgantown, Chalk Point and Dickerson Plants to comply with the Maryland Healthy Air Act.

8. If requested by the Department, Mirant shall revise the recommended improvements or implementation schedule as requested and re-submit the report to the Department for final approval no later than 14 calendar days following receipt of the Department's requested changes.

9. Mirant shall commence implementation of the approved process changes in accordance with the approved schedule no later than 30 calendar days following receipt of the Department's approval and shall complete implementation of all improvements no later than December 31, 2008, unless, based on the nature of recommended measures or delay in approval, the parties agree to extend the deadline.

VI. VISIBLE EMISSIONS COMPLIANCE DEMONSTRATION

10. For the period commencing on July 1, 2009 and ending on December 31, 2009, Mirant shall be subject to stipulated penalties in accordance with Section XVIII of this Consent Decree if the emissions from the stacks for Morgantown Units 1 and 2, the common stack for Chalk Point Units 1 and 2, and the common stack for Dickerson Units 1, 2 and 3 fail to achieve compliance with the applicable visible emission limitations as provided in COMAR 26.11.09.05A through submission of opacity CEMS data in accordance with COMAR 26.11.01.11; provided, however, that if such standard for demonstrating compliance with COMAR 26.11.09.05A by opacity CEMS data shall have been replaced with a new regulatory standard for demonstrating compliance with COMAR 26.11.09.05A by opacity CEMS data, emissions from these stacks shall comply with the new standard in lieu of the existing standard, and shall do so upon the effective date of the new standard. Compliance shall be demonstrated using third quarter 2009 opacity CEMS data unless the Department adopts a new regulatory standard for demonstrating compliance with the visible emissions limitation by opacity CEMS data, in which case compliance shall be demonstrated through the applicable opacity CEMS data; and further provided that upon the effective date of the new standard for demonstrating compliance with the visible emissions limitation by opacity CEMS data, Mirant shall be subject to all sanctions and

remedies available to the Department under Title 2 of the Environment Article for violations of the new regulatory standard in lieu of the previously applicable standard.

VII. IMPLEMENTATION OF INTERIM AND FINAL CAM PLANS

A. The Morgantown Plant

11. Mirant Mid-Atlantic shall: (a) complete stack testing and collection of primary and secondary ESP power data for Morgantown Unit 2 no later than August 31, 2007 and shall submit the test results to the Department no later than November 30, 2007; and (b) complete stack testing and collection of primary and secondary ESP power data for Morgantown Unit 1 no later than two weeks following commissioning of the flue gas conditioning system currently planned for May 15, 2008, and shall submit the test results and data to the Department no later than sixty (60) days following commissioning of the flue gas conditioning system. Mirant Mid-Atlantic shall notify the Department in writing in accordance with Paragraph 62 no later than five (5) business days following the date the flue gas conditioning system is commissioned.

12. Mirant Mid-Atlantic shall submit proposed Final CAM Plans to the Department for review and approval: (a) for Morgantown Unit 2 no later than February 15, 2008; and (b) for Morgantown Unit 1 within forty-five (45) days following completion of the testing required by Paragraph 11. The proposed Final CAM Plans shall include a proposed opacity indicator range and indicators of ESP performance based on testing performed in accordance with Paragraph 11.

13. Mirant Mid-Atlantic shall propose revisions to the proposed Final CAM Plans for Morgantown Units 1 and 2 in response to requests by the Department by submitting the revised Final CAM Plans to the Department no later than fourteen (14) days following receipt of the Department's requested revisions.

14. Mirant Mid-Atlantic shall implement the approved Final CAM Plans no later than fourteen (14) calendar days following receipt of the Department's written approval.

15. Upon request by the Department following installation of selective catalytic reduction ("SCR") or FGD technology on a Unit subject to this Consent Decree, Mirant shall perform additional ESP Model Calibration testing on such Unit, and no later than ninety (90) days following receipt of the Department's request, submit to the Department for review and approval revised Final CAM Plans for that Unit, as necessary based upon ESP Model Calibration test results. Mirant shall implement the approved revised Final CAM Plan for a Unit no later than twenty (20) operating days following receipt of the Department's approval.

16. No later than thirty (30) calendar days following the effective date of this Consent Decree, Mirant Mid-Atlantic shall implement an Interim CAM Plan as provided in Paragraph 17 applicable to the Morgantown Units 1 and 2 that shall remain in effect until Mirant implements the Final CAM plan approved pursuant to Paragraphs 11 through 14 of this Consent Decree.

17. When opacity levels at either Morgantown Units 1 or 2 reach 17.0%, or a different percentage based on testing performed in accordance with Paragraph 11 and approved by the Department, measured as a one-hour block average, Mirant shall implement the measures specified in Appendix A to improve ESP performance and reduce opacity levels: Mirant shall employ the measures specified in this Paragraph until such time as opacity levels return to below 17.0%.

18. No later than thirty (30) calendar days following the effective date of this Consent Decree, Mirant shall provide documentation satisfactory to the Department that the Interim CAM Plan has been fully implemented.

B. **Early Implementation of CAM Plans for the Chalk Point and Dickerson Plants**

19. No later than thirty (30) days following the effective date of this Consent Decree, Mirant shall submit CAM Plan Test Program Protocols for particulate matter emissions from the common stacks for Chalk Point Units 1 and 2, and Dickerson Units 1, 2 and 3 to the Department for review and approval. Each CAM Plan Test Program Protocol shall conform to the requirements of 40 C.F.R. Part 64 and applicable United States Environmental Protection Agency guidance and protocols.

20. No later than 20 business days following receipt of the Department's requested revisions, Mirant shall revise the proposed CAM Plan Test Program Protocols as requested by the Department and submit the revised CAM Plan Test Program Protocols to the Department for final approval. Mirant shall complete performance of all necessary particulate matter and opacity correlation testing no later than 120 days (excluding outages) following receipt of the approved CAM Plan Test Program Protocols.

21. Mirant shall submit completed CAM Plans for emissions from the common stack for Chalk Point Units 1 and 2 and the common stack for Dickerson Units 1, 2, and 3 to the Department for review and approval no later than sixty (60) days following completion of the testing required by Paragraph 20. Mirant shall complete implementation of the approved CAM Plans no later than thirty (30) days following receipt of the Department's approval.

22. No later than thirty (30) calendar days following entry of this Consent Decree, Mirant shall submit to the Department, for review and approval, an Interim CAM Plan as provided in Paragraph 23 applicable to emissions from the common stack for Chalk Point Units 1 and 2 and the common stack for emissions from Dickerson Units 1, 2 and 3 that shall, for each stack, remain

in effect until Mirant implements the Final CAM Plan approved pursuant to Paragraphs 19 through 21 of this Consent Decree for that stack.

23. The Interim CAM Plan for each stack shall provide for implementation of measures to improve ESP and baghouse performance, as applicable, when opacity levels of emissions from any stack reach 9% measured as a one-hour block average. The Interim CAM Plan shall provide for load reductions, as necessary when opacity levels reach 9.9%, measured as a one-hour block average. Mirant shall revise the Interim CAM Plan as requested by the Department and implement the approved Interim CAM Plan no later than twenty (20) calendar days following receipt of the Department's approval.

24. No later than thirty (30) calendar days following receipt of the Department's approval pursuant to Paragraph 23, Mirant shall provide documentation satisfactory to the Department that the Interim CAM Plan for Chalk Point Units 1 and 2 and Dickerson Units 1, 2 and 3 has been fully implemented.

25. Upon request by the Department following installation of SCR or FGD technology controlling emissions from the stacks serving Chalk Point Units 1 or 2, or Dickerson Units 1, 2 or 3, Mirant shall perform additional stack testing and collection of primary and secondary ESP power data on such stack, and no later than ninety (90) days following receipt of the Department's request, submit to the Department for review and approval revised Final CAM Plans for each such stack, as necessary based upon the stack test and ESP power data.. Mirant shall implement the approved revised Final CAM Plan for each such Unit no later than twenty (20) calendar days following receipt of the Department's approval.

VIII. PARTICULATE MATTER STACK TESTING

26. Subject to the provisions of Paragraph 28, Mirant shall conduct stack testing for particulate matter emissions from the separate stacks serving Morgantown Units 1 and 2, the common stack for Chalk Point Units 1 and 2 and the common stack for Dickerson Units 1, 2 and 3 in accordance with EPA and Department approved test methods and protocols as required by this Paragraph and Paragraph 27. Initial stacks tests were performed on each Unit during the period between July 1, 2007 and December 31, 2007. Subsequent stack tests for each Unit shall be performed during the 60-operating day period commencing on the 170th operating day following the preceding stack test. Each calendar day on which a Unit fires fossil fuel shall be an operating day for that Unit. Stack testing performed in accordance with the requirements of this Paragraph shall satisfy all particulate matter stack test requirements specified in the existing Title V or State operating permits applicable to Morgantown Units 1, 2 and 3, Chalk Point Units 1 and 2, and Dickerson Units 1, 2 and 3.

27. Mirant shall submit a proposed test protocol to the Department for review and approval at least thirty (30) days in advance of the first scheduled test date. Subsequent protocols shall be provided to the Department if Mirant intends to make any material revisions to the previously submitted stack test protocols. Mirant shall provide the Department with two weeks advance written notice of any scheduled stack test and shall submit the results of each stack test to the Department no later than forty-five (45) days following the stack test.

28. Notwithstanding the provisions of Paragraphs 26 and 27, as to each stack, Mirant may petition the Department to revert to annual stack testing provided that either:

(a) (i) the Final CAM Plan for particulate matter has been fully implemented in accordance with Paragraphs 11 through 15 and 19 through 21, as applicable, for a period of at least one year; and

(ii) Mirant demonstrates to the Department's satisfaction, that the Final CAM Plan has been successful in preventing exceedances of the applicable particulate matter emission limitation for the previous calendar year; or

(b) a PM CEMS has been reliably operating for a period of at least one year and generating particulate matter emissions data that is deemed accurate by the Department.

IX. IMPROVEMENTS TO THE DICKERSON BAGHOUSE

29. No later than December 31, 2007 to conform with best practices in the industry, Mirant shall complete replacement of all 8,000 filter bags in the baghouse that controls particulate matter emissions from Dickerson Units 1, 2 and 3 to improve baghouse performance and reduce opacity and particulate emissions. Mirant shall replace the filter bags with upgraded bags composed of a Teflon or similar material.

30. No later than June 30, 2008, to conform with best practices in the industry, Mirant shall install a bag leak detection system on the baghouse serving Dickerson Units 1, 2 and 3 downstream of the baghouse. The bag leak detection system shall be equipped with an alarm system to alert facility personnel to elevated particulate levels in the flue gas stream from Dickerson Units 1, 2 and 3 and shall conform to the equipment specification requirements of 40 C.F.R. § 60.48Da(o)(4)(i)—(iv).

X. INSTALLATION OF PARTICULATE MATTER CEMS

31. Mirant shall notify the Department in accordance with the requirements of Paragraph 62 no later than ten (10) calendar days following the date on which each FGD device

installed to achieve compliance with the Maryland Healthy Air Act commences initial operation. No later than ninety (90) days following the initial operation of an FGD device serving one or more Units subject to this Consent Decree, to conform with best practices in the industry, Mirant Mid-Atlantic shall install and commence continuous operation of particulate matter ("PM") CEMSs downstream of each FGD device to record particulate emissions in the flue gas exiting each stack serving Morgantown Units 1 and 2, and the combined stacks serving Chalk Point Units 1 and 2 and Dickerson Units 1, 2 and 3 at all times when the Units are operating. In the event an FGD must be bypassed for any reason, Mirant Mid-Atlantic will operate the existing opacity CEMS to record opacity for the duration of the bypass. Notwithstanding the provisions of Paragraph 39, in such event, compliance with applicable opacity limitations may be determined by opacity CEMS data.

32. Each PM CEMS shall be comprised of a continuous particle mass monitor or equivalent device measuring particulate matter concentration: (a) for Morgantown Units 1 and 2 in lbs/mm Btu on a 24-hour rolling average basis, unless State or federal law or regulation permits otherwise; and (b) for Chalk Point Units 1 and 2 and Dickerson Units 1, 2 and 3 in grains per dry standard cubic feet on a 24-hour rolling average basis, unless State or federal law permits otherwise. Mirant shall maintain, in an electronic database, the hourly average emission values recorded by all PM CEMS for five (5) years.

33. Mirant shall use reasonable efforts to keep each PM CEMS operating and producing data whenever a Unit served by the PM CEMS is operating.

34. No later than July 1, 2009, Mirant shall submit to the Department for review and approval a plan for the installation of each PM CEMS. The plan shall be developed in accordance with EPA Performance Specification 11: Specification and Test procedures for PM CEMS and

Procedure 2: PM CEMS at Stationary Sources (PS 11), as published at 66 Fed. Reg. 64, 176 (December 12, 2001), or subsequently revised, and shall include a description of the CEMS and identification of the manufacturer. Mirant shall install and certify each PM CEMS in accordance with the approved plan for installation.

35. In accordance with Paragraph 62, Mirant shall provide the Department with written notice of the date on which initial operation of each PM CEMs is commenced. No later than ninety (90) days following initial operation of a PM CEMS, Mirant shall submit to the Department for review and approval a proposed Quality/Assurance/Quality Control ("QA/QC") protocol for that PM CEMS, including a maintenance schedule, which shall be followed in calibrating and operating the PM CEMS. The protocol shall be developed in accordance with EPA Procedure 2 of Appendix F or 40 C.F.R. Part 60 ("Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems Used at Stationary Sources"). Mirant shall operate each PM CEMS in accordance with the approved protocol.

36. Mirant shall submit quarterly PM CEMS reports to the Department that comply with COMAR 26.11.01.10G(2)(d)(i) through (vi). All data shall be reported in 24-hour rolling averages, unless State or federal law or regulation permits otherwise.

37. Mirant shall be permitted to discontinue operation of a PM CEMS, as provided in this Paragraph, if the parties agree that continued operation of the PM CEMS is "impracticable." During the 180-period following installation of each PM CEMS, Mirant shall evaluate the reliability and accuracy of the PM CEMS, and no later than the 180th day following installation of the PM CEMS, submit a report to the Department that assesses the practicability of continued operation of the PM CEMS on each stack. Continued operation of a PM CEMS shall be considered impracticable if: (a) the PM CEMS cannot be kept in proper condition for sufficient

periods of time to produce reliable, adequate, or useful data consistent with the QA/QC protocol; or (b) Mirant demonstrates that recurring, chronic, or unusual equipment adjustment or servicing needs in relation to other types of continuous emission monitors cannot be resolved through reasonable expenditures of resources. If Mirant asserts that continued operation of a PM CEMS is impracticable, the report submitted pursuant to this Paragraph shall include a proposed alternative plan for monitoring particulate emissions and opacity levels for approval by the Department. If the Department determines that Mirant has demonstrated impracticability as to any PM CEMS pursuant to this Paragraph, upon implementation of the approved alternative monitoring plan in accordance with the approved schedule, Mirant shall be entitled to discontinue operation of that PM CEMS and no data from that PM CEMS may be used to demonstrate compliance with the applicable particulate emissions limitation.

38. PM CEMS data shall not be used to demonstrate a Unit's compliance with the applicable particulate matter emission limitation until the 181st day following installation of the PM CEMS on that Unit, except with regard to Morgantown Units 1 and 2, as to which the provisions of Paragraph 41 shall govern the 90-day period subsequent to the 180 days following the installation of the PM CEMS. Commencing on the 181st day following installation of the PM CEMS on a Unit, PM CEMS data may be used to demonstrate compliance with applicable particulate matter emission limitations for that Unit unless Mirant asserts in the report required by Paragraph 37 that the continued operation of the PM CEMS on a Unit is impracticable. In such event, PM CEMS data shall not be used to demonstrate the Unit's compliance with the applicable particulate matter emission limitation unless and until the Department determines that the continued operation of the PM CEMS on that Unit is not impracticable. Unless otherwise required by State or federal law or regulation, in demonstrating compliance, particulate emissions during

periods of startup and shutdown shall not be included. For each Unit subject to this Consent Decree, periods of startup shall end at such time as the Unit reaches minimum load levels. For Morgantown Units 1 and 2, minimum load is reached when the Unit generates in the range of 215 – 225 gross megawatts. For Chalk Point Units 1 and 2, minimum load is reached when the Unit generates 210 gross megawatts. For Dickerson Units 1, 2 and 3, minimum load is reached when the Unit generates 75 gross megawatts. The Department may approve a longer startup period for a Unit if necessary to ensure that the PM CEMS serving that Unit is accurately recording particulate emissions. Periods of shutdown shall only commence when the Unit ceases burning any amount of coal. For each Unit, Mirant shall maintain a record of the date and time that: (a) startup commenced; (b) minimum load was reached; and (c) combustion of coal ceased. Mirant shall make such records available to the Department upon request. At all times when PM CEMS are used to demonstrate compliance as provided in this Paragraph 38, each PM CEMS shall, at a minimum, obtain valid PM CEMS hourly averages for [redacted] of all operating hours on a 30-day rolling average. Commencing on January 1, 2012, Mirant shall use all reasonable efforts to obtain valid PM CEMS hourly averages for a minimum of ninety percent [redacted] of all operating hours on a 30-day rolling average.

39. Unless otherwise required by State or federal law or regulation, upon initial operation of an FGD pollution control device on a Unit subject to this Consent Decree, Mirant may discontinue use of opacity CEMS to monitor the opacity of emissions from the stack serving such Unit, provided that: (a) emissions from such Unit do not bypass the FGD serving that Unit and FGD technology serving that Unit is in operation; (b) Mirant has fully implemented an alternative plan for monitoring opacity levels and particulate matter emissions from the stack serving such Unit that has been approved by the Department; and (c) Mirant has demonstrated to

the satisfaction of the Department and the United States Environmental Protection Agency, in accordance with 40 CFR § 75.14 and applicable EPA regulations, policy and guidelines, that condensed water is present in the flue gas stream from such Unit and would impede the accuracy of opacity measurements.

XI. PARTICULATE MATTER EMISSIONS LIMITATION APPLICABLE TO MORGANTOWN UNITS 1 AND 2

40. Effective upon the effective date of this Consent Decree, Morgantown Units 1 and 2 shall be subject to a particulate matter emissions limitation of .100 lbs/mm Btu heat input. Compliance with the particulate matter limitation shall be demonstrated by stack test performed in accordance with Paragraphs 26 and 27, and by PM CEMS data in accordance with Section X, except that violations of the particulate matter emission limitation recorded by PM CEMS data shall be subject to § 2-611 of the Environment Article (Plan for Compliance) as provided in Paragraphs 41 and 42. Violations of the particulate matter standard demonstrated by stack testing are not subject to a Plan for Compliance pursuant to § 2-611 of the Environment Article and shall be subject to all sanctions and remedies available to the Department.

41. Provided that the continued operation of a PM CEMS on Morgantown Units 1 or 2, as applicable, has not been determined to be impracticable pursuant to Paragraphs 37 and 38, if, during the 90-day period that commences following the later of:

(a) 180 days following installation of a PM CEMS; or

(b) if applicable, the Department's determination that operation of the PM CEMS is not impracticable,

PM CEMS data records three or more exceedances of the particulate matter emission limitation from either of the stacks serving Morgantown Units 1 or 2, measured as a 24-hour block average, Mirant Mid-Atlantic shall retain the services of an independent consultant to evaluate the cause(s)

of the exceedances and recommend improvements (which may include upgrades to the electrostatic precipitator) to reduce particulate emissions from each stack with three or more exceedances of the particulate limitation. Such recommendations, including a proposed schedule for implementation, shall be contained within a report submitted to the Department for review and approval no later than ninety (90) days following the expiration of the 90-day period. Mirant shall implement the recommendations as approved by the Department in accordance with the approved schedule so as to achieve continuous compliance with the particulate matter emission limitation no later than December 31, 2011, or eight months following the Department's approval, whichever is later. Violations of the particulate matter standard recorded by PM CEMS data shall be subject to a Plan for Compliance pursuant to § 2-611 of the Environment Article, which shall terminate at such time as Mirant completes implementation of the improvements required by this Paragraph or December 31, 2011, whichever first occurs.

42. If, during the 90-day period that commences 180 days following installation of a PM CEMS, PM CEMS data records fewer than three exceedances of the particulate matter emission limitation at each of Morgantown Units 1 or 2, measured as a 24-hour block average, Mirant shall pay a stipulated penalty for each such exceedance in accordance with Paragraph 52 of this Consent Decree. Subsequent violations of the particulate matter emission limitation that occur after the end of the 90-day period shall not be subject to stipulated penalties, but shall be subject to all sanctions and remedies available to the Department under Title 2 of the Environment Article.

XII. TRUCK WASHING FACILITIES

43. To conform with best practices in the industry, Mirant shall commence operation of a Truck Washing Facility designed to reduce fugitive particulate matter emissions at the

Morgantown Plant no later than September 30, 2008, and at the Chalk Point Plant no later than December 31, 2008. Each Truck Washing Facility shall be installed to wash the wheels, under-carriage, and sides of all trucks used to haul fly ash and bottom ash to off-site storage facilities. Each Truck Washing Facility shall consist of a steel basin with ramps on either end, and an array of nozzles that spray high velocity jets of water on the bottom and sides of trucks as they are driven through the device. Water shall be recirculated through a filtration tank. Accumulated ash solids in each filtration tank shall be removed periodically and transported off site to an appropriate ash storage facility in accordance with all applicable local, State and federal laws and regulations. The truck washing operation may be discontinued when ambient temperatures drop, or are expected to drop, below 36 degrees Fahrenheit, or otherwise when potential freezing would cause or contribute to unsafe conditions.

XIII. MIST ELIMINATORS

44. Mirant shall install and maintain a mist eliminator in each FGD/SO_2 absorber for Morgantown Units 1 and 2, Chalk Point Units 1 and 2 and Dickerson Units 1, 2 and 3, as specified in each of Mirant's separate applications for a CPCN to install FGD technology at the Morgantown, Chalk Point and Dickerson Plants.

XIV. REPORTING

45. Beginning with the quarter that commences on January 1, 2008, Mirant shall submit to the Department quarterly reports describing the status of Mirant's compliance with the terms and conditions of this Consent Decree. Each quarterly report shall be due no later than thirty (30) days following the end of the quarter, unless such date falls on a weekend or holiday, in which case the report shall be due on the next business day. In accordance with this Paragraph, the first quarterly report shall be due on April 30, 2008.

mar 6

46. Commencing with the first full month following the effective date of this Consent Decree, and until such time as the approved Final CAM Plans are incorporated into and enforceable through the Title V operating permits for the Morgantown, Chalk Point and Dickerson Plants, as applicable, Mirant shall submit a monthly Interim CAM Plan Opacity Compliance Report to the Department that identifies all instances in which:

(a) for Morgantown Units 1 or 2, opacity of emissions reached a level of 17.0% or more, measured as a one-hour block average, except during exempt periods;

(b) for the stacks serving Chalk Point Units 1 and 2 and Dickerson Units 1, 2 and 3, all instances in which opacity of emissions reached 9.0% or more, measured as a one-hour block average, except during exempt periods; and

(c) for each such event, describes all actions taken by Mirant to reduce opacity levels and the results of each such action.

Each monthly Interim Compliance Report shall be due on the thirtieth (30) day of the following month.

XV. CIVIL PENALTY

47. Mirant agrees to pay a civil penalty of $175,000 for the violations alleged herein that occurred after January 2, 2006. The penalty shall be paid within thirty (30) days following the effective date of this Consent Decree. Payment shall be by certified check made payable to the Maryland Department of the Environment/Clean Air Fund and shall be mailed to:

Maryland Department of the Environment
P.O. Box 2037
Baltimore, MD 21203-2037

XVI. SUPPLEMENTAL ENVIRONMENTAL PROJECT

48. No later than thirty (30) days following the effective date of this Consent Decree, Mirant shall make a donation in the amount of $75,000 to the Board of Education for Prince Georges County for the purpose of funding the installation of diesel oxidation catalysts on the County's diesel school buses to reduce particulate emissions. Prince Georges's County estimates that the donation will fund the installation of diesel oxidation catalysts on approximately 35 school buses. The check shall reference the school bus diesel oxidation catalyst retrofit project and be payable to: Board of Education of Prince George's County and shall be mailed to:

James Beall
Chief Financial Officer
Prince George's County Public Schools
Sasscer Administration Building
14201 School Lane
Upper Marlboro, Maryland 20772

No later than forty-five (45) days following the effective date of this Consent Decree Mirant shall provide the Department with written confirmation from the Board of Education for Prince George's County acknowledging receipt of the donation.

XVII. LOSS OF LEASEHOLD INTEREST

49. If Mirant Mid-Atlantic loses its leasehold interest in, and no longer continues to operate, the Morgantown and/or Dickerson Plants prior to fully satisfying its obligations under this Consent Decree, Mirant shall provide the Department with written notice within ten (10) business days after becoming aware of such loss of leasehold interest.

50. In such event, Mirant Mid-Atlantic shall use its best efforts to secure the agreement of the owner or a new operator of the Morgantown and/or Dickerson Plants, as applicable, to become a signatory to the Consent Decree and be bound by the obligations of the Decree. Subject to the provisions of Paragraph 51, if Mirant Mid-Atlantic fails to secure the agreement of the owner

or new operator of the Morgantown or Dickerson Plants, as applicable, to become a signatory to the Consent Decree within forty-five (45) days following Mirant Mid-Atlantic's loss of leasehold interest, then Mirant Mid-Atlantic shall pay an additional civil penalty to the Department in the amount of:

(a) $200,000, if the owner or a new operator of either the Morgantown or Dickerson Plants does not agree to become a signatory to the Consent Decree; or

(b) $ 400,000, if the owner or a new operator of both the Morgantown and Dickerson Plants does not agree to become a signatory to the Consent Decree. Such penalty shall be due no later than thirty (30) days following demand by the Department. Payment shall be made in accordance with the provisions of Paragraph 47.

51. Notwithstanding the provisions of Paragraph 50, as to the Morgantown and/or Dickerson Plants, Mirant Mid-Atlantic shall not be liable under this Consent Decree for the additional civil penalty required by Paragraph 50 in the event that all unfulfilled obligations under this Consent Decree have been incorporated into, and made fully and finally enforceable through the Title V operating permits for the Morgantown and/or Dickerson Plants against the owner or new operator of each Plant, as applicable.

XVIII. STIPULATED PENALTIES

52. For any failure to comply with the terms and conditions of this Consent Decree, upon demand by the Department, Mirant shall pay the following stipulated penalties:

Consent Decree Violation	Stipulated Penalty (per day per violation unless otherwise noted)
a. failure to submit corrected quarterly emission reports or the analysis of opacity exceedances at the Morgantown, Chalk Point or Dickerson Plants as required by Paragraphs 7 and 8	$5,000 per day for either violation $10,000 per day for both violations

b. failure to implement the approved Process changes as required by Paragraph 9	$5,000
c. failure to timely submit ESP Model Calibration Test results in accordance with Paragraph 11	$5,000
d. failure to timely submit a final CAM plan in accordance with Paragraph 12	$5,000
e. failure to revise the Final CAM Plan in response to request by the Department or to re-submit revised Plan in accordance with Paragraph 13	$5,000
f. failure to implement or maintain compliance with the approved Final CAM Plan in accordance with Paragraph 14	$5,000
g. failure to perform additional stack testing or collection of ESP power data as required by Paragraphs 15 and 25	$5,000
h. failure to submit revised Final CAM Plans as required by Paragraphs 15 and 25	$5,000
i. failure to implement or maintain compliance with revised Final CAM Plans as required by Paragraphs 15 and 25	$5,000
j. failure to implement or maintain compliance with an Interim CAM Plan in accordance with Paragraph 16	$5,000
k. failure to make adjustments as required by Paragraphs 17 and 23	$2,500 for each hour of violation
l. failure to submit documentation that the Interim CAM Plan has been implemented as required by Paragraph 18	$2,500
m. failure to submit or revise CAM Plan test protocol as required by Paragraphs 19 and 20	$2,500
n. failure to complete performance of particulate matter and opacity correlation testing as required by Paragraph 20	$5,000
o. failure to submit completed CAM Plans as required by Paragraph 21	$5,000

p. failure to implement or maintain compliance with completed CAM Plans as required by Paragraph 21	$5,000
q. failure to submit or revise an Interim CAM Plan as required by Paragraphs 22 and 23	$5,000
r. failure to submit documentation that the CAM Plan has been implemented as required by Paragraph 24	$2,500
s. failure to timely submit a monthly Interim Opacity Compliance Exceedance Report in accordance with Paragraph 46	$1,500 per day for the first 30 days, thereafter $2,500 per day
t. failure to timely submit quarterly reports as required by Paragraph 45	$1,500 per day for the first 30 days, thereafter $2,500 per day
u. failure to ensure performance of coal sampling as required by Paragraph 5	$2,000 for each train of coal not sampled
v. combustion of coal that contributes to SO_2 emissions in excess of the applicable emission limitation as provided in Paragraph 5	$5,000 for each exceedence
w. failure to utilize the computer software program as required by Paragraph 6	$3,500
x. failure to perform semi-annual particulate matter stack testing as required by Paragraph 26	$50,000 for each failure to stack test
y. failure to timely submit a stack test protocol to the Department as required by Paragraph 27	$3,500
z. failure to provide the Department with two weeks advance notice of stack test, or to submit the stack test results in accordance with Paragraph 27	$3,500
aa. failure to replace the filter bags in the Dickerson baghouse as required by Paragraph 29	$5,000
bb. failure to install bag leak detection system as required by Paragraph 30	$5,000
cc. failure to notify the Department that Mirant has commenced operation of an FGD as required by Paragraph 31	$2,500

dd. failure to install and operate a PM CEMS as required by Paragraphs 31 and 32	$7,500
ee. failure to notify the Department of initial operation of a PM CEMS as required by Paragraph 35	$2,500
ff. failure to obtain valid PM CEMS hourly averages as required by Paragraph 35	$3,500
gg. failure to timely submit a plan for installation of each PM CEMS as required by Paragraph 34	$3,500
hh. failure to timely submit a PM CEMS QA/QC protocol as required by Paragraph 35	$3,500
ii. failure to submit a quarterly PM CEMS report as required by Paragraph 36	$1,500 per day for the first 30 days; $2,500 per day thereafter.
jj. failure to timely submit practicability report as required by Paragraph 37	$3,500
kk. failure to submit report with recommendations for improvements as required by Paragraph 41	$2,500 per day for the first 30 days, $5,000 per day thereafter
ll. failure to retain independent contractor as required by Paragraph 41	$2,500 for the first 30 days, $5,000 per day thereafter
mm. failure to implement recommended improvements as required by Paragraph 41	$3,500 for the first thirty days, $7,000 per day thereafter
nn. failure to install a Truck Washing Facility as required by Paragraph 43	$5,000
oo. failure to install mist eliminators as required by Paragraph 44	$5,000 per day for each mist eliminator
pp. failure to pay the civil penalty as required by Paragraph 47	$5,000
qq. failure to perform SEP as required by Paragraph 48	$5,000
rr. failure to timely provide the Department with notice of loss of leasehold interest in accordance with Paragraph 49	$3,500
ss. failure to pay the additional penalty as required by Paragraph 50	$2,500
tt. failure to transfer responsibility for compliance with the Consent Decree in accordance with Paragraphs 3 and 4	$3,500

uu. violation of particulate matter emission limitation at Morgantown Units 1 or 2 as specified in Paragraph 42	$10,000 per violation if the violation is less than 5% in excess of the emission limitation; $20,000 per violation if the violation is equal to or greater than 5% in excess of the limitation, but less than 10% above the limitation; $50,000 per violation if the violation is equal to or greater than 10% in excess of the limitation
vv. violation of the existing standard (if applicable) as codified in COMAR 26.11.09.05A for demonstrating compliance with the applicable opacity limitation through submission of opacity CEMS data during the period from July 1, 2009 through December 31, 2009 as provided in Paragraph 10	For the Chalk Point Plant, $1,000 for each day of violation; For the Dickerson Plant, $1,000 for each day of violation; For the Morgantown Plant, $1,000 per Unit for each day of violation.
ww. any other violation of this Consent Decree, except: (1) failure to timely achieve compliance with COMAR 26.11.09.05A after December 31, 2009 through submission of opacity CEMS data as required by Paragraph 10; and (2) failure to achieve compliance with a revised standard for demonstrating compliance with the applicable opacity limitation as required by Paragraph 10.	$1,500

53. All stipulated penalties shall begin to accrue on the day after performance is due or on the day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Penalties shall be due within forty-five (45) days following receipt of written demand by the Department, and shall be payable in accordance with the instructions of Paragraph 47. Mirant agrees not to contest the amount of the stipulated penalty but reserves the right to contest whether a violation has occurred. Neither demand for, nor payment of stipulated penalties under this Paragraph shall be construed as an election of remedy or other limitation on the Department's discretion to seek any form of injunctive relief available to it for violations of the Consent Decree. Nothing in this Consent Decree shall be construed to limit the Department's discretion to seek, in lieu of stipulated

penalties, civil or administrative penalties and any form of injunctive relief available to it pursuant to Title 2, Subtitle 6 of the Environmental Article for violations of this Consent Decree.

XIX. GENERAL PROVISIONS

54. The Department reserves all legal and equitable remedies available to it to enforce the provisions of this Consent Decree and all laws, regulations, and permit conditions to which Mirant is subject.

55. Mirant shall comply with the requirements of this Consent Decree within the time limits and manner set forth herein, unless performance is prevented or delayed by events which constitute a Force Majeure, including an Act of God, fire, flood, strike, riot, catastrophe, failure to obtain a necessary government permit or authorization, provided that Mirant timely submitted a complete application for such permit or authorization, or other cause beyond the control of Mirant (hereinafter, a "Force Majeure Event"). Force Majeure Events do not include (1) difficulties caused by reasonably foreseeable weather conditions which could have been overcome; (2) increased cost of performance; or (3) changed economic circumstances. Mirant will notify the Department, in writing, of any such causes or delay within five days after Mirant becomes aware of the delay or anticipates the delay.

56. The burden of establishing a Force Majeure Event shall rest with Mirant. If Mirant establishes to the Department's satisfaction that it has been delayed in the implementation of any obligation under this Consent Decree by a Force Majeure Event, then the Department shall extend the date or dates specified in this Consent Decree for such a period of time as allows compliance to be achieved as expeditiously as practicable after the delay excused pursuant to this Paragraph. Any extension granted shall in no event exceed the period of delay caused by the Force Majeure Event.

57. Nothing in this Consent Decree shall be construed to prevent the Department from seeking any remedies or sanctions available to the State for violations of State law, regulations, permits or orders issued by the Department not expressly addressed in this Consent Decree. Nothing in this Consent Decree shall be construed to prevent the Department from taking direct action or ordering any additional corrective or other action it deems necessary to prevent or abate any threat to public health, welfare or the environment to the extent authorized by State law. Except as expressly provided by this Consent Decree, nothing in this Consent Decree shall be construed to relieve Mirant of the obligation to comply with all applicable existing and future federal, State and local laws and regulations, including any future State or federal law requiring installation of PM CEMS.

58. Subject to the provisions of Paragraph 10, pursuant to § 2-611 of the Environment Article ("Plan for Compliance"), this Consent Decree constitutes a plan for demonstrating compliance with COMAR 26.11.09.05A through submission of opacity CEMS data by Dickerson Units 1, 2 and 3, Morgantown Units 1 and 2 and Chalk Point Units 1 and 2, which shall terminate on December 31, 2009, unless pursuant to Paragraph 10, prior to that date, the Department adopts a new standard for demonstrating compliance with COMAR 26.11.09.05A(2) through opacity CEMS data, in which case the Plan for Compliance shall terminate on the effective date of the new standard.

59. This Consent Decree shall not be construed to create any rights in persons other than the Department and Mirant.

60. The provisions of this Consent Decree are severable and, should any provision be declared by a court of law to be invalid or unenforceable, the remainder shall continue in full force and effect between the parties to the maximum extent reasonable.

61. This Consent Decree may not be modified, except by the written consent of all parties. Where the modification constitutes a material change to any term of this Consent Decree, it shall be effective only upon approval by the Court.

62. All notices and submissions required by this Consent Decree shall be mailed to:

Manager
Air Quality Compliance Program
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, Maryland 21230

63. This Consent Decree is effective upon execution by all parties.

64. The Consent Decree shall be construed in accordance with Maryland law.

65. This Consent Decree constitutes the entire agreement and settlement between the parties.

66. Except as provided in Paragraph 67, this Consent Decree shall terminate upon the Department's determination that Mirant has fully complied with its obligations under this Decree, and further that all continuing obligations under the Decree are incorporated into and made fully and finally enforceable through the Title V operating permits for the Morgantown, Chalk Point and Dickerson Plants, as applicable. Mirant waives its right to contest such incorporation into the Title V operating permits.

67. In the event that enforcement of a provision of this Consent Decree cannot be pursued under a Title V operating permit, or if a provision of this Consent Decree was intended

to be incorporated into a Title V operating permit, but did not become or remain part of such permit, then such requirement may be enforced under the terms of this Consent Decree.

68. In consideration of Mirant's undertakings pursuant to this Consent Decree, and provided that Mirant fully complies with its obligations under this Consent Decree, the Department releases Mirant from all civil liability arising from: (a) the violations alleged in the Complaint filed in this case; and (b) opacity violations demonstrated by opacity CEMS through the date of entry of the Consent Decree.

IT IS SO AGREED AND CONSENTED TO:

MIRANT MID-ATLANTIC, LLC

BY: _____

MARCH 5, 2008
Date

Robert Driscoll, President

MIRANT CHALK POINT, LLC

BY: _____

MARCH 5, 2008
Date

Robert Driscoll, President

STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT

_____

March 6, 2008
Date

George S. Aburn, Jr., Director
Air and Radiation Management Administration

Approved as to form and legal sufficiency
this 6th day of March, 2008.

Signature Page for Consent Decree in:
State of Maryland, Department of the Environment v. Mirant Mid-Atlantic, LLC, et al.

Kathy M. Kinsey
Assistant Attorney General

It is so ORDERED:

April 8, 2008
Date

[redacted]
Judge
Circuit Court for Prince George's County

Judge William D. Missouri

TRUE COPY—TEST—

Appendix A

ESP Troubleshooting Checklist

Table -1

TYPICAL TROUBLESHOOTING CHART FOR AN ELECTROSTATIC PRECIPITATOR (ESP)

Symptom	Cause	Remedy
No primary voltage No primary current No precipitator current Vent fan on Alarm energized	Overload condition	Check overload relay settings Check wiring components
	Misadjustment of current limit control	Check adjustment of current limit control setting
	Overdrive of SCR's	Check signal from firing circuit module
No primary voltage No primary current No precipitator current Vent fan off Alarm energized	Relay panel fuse blown	Replace
	Circuit breaker tripped	Reset circuit breaker
	Loss of supply power	Check supply to control unit
Control unit trips out on over-current when sparking occurs at high currents	Circuit breaker defective or incorrectly sized	Check circuit breaker
	Overload circuit incorrectly set Short circuit condition in primary	Reset overload circuit Check primary power wiring
High primary current No precipitator current	Transformer or rectifier short	Check transformer and rectifiers
No primary voltage No primary current No precipitator current Vent fan on Alarm not energized	SCR and/or diode failure No firing pulse from firing circuit and/or amplifier	Replace Check signal from firing circuit and/or amplifier
Same as above, even after replacing components or subpanels, changing wires, or repair	SCR's being fired out on phase	Reverse input wires
Low primary voltage High secondary current	Short circuit in secondary circuit or precipitator	Check wiring and components in H.V. circuit and pipe and guard Check precipitator for: Interior dust buildup Full hoppers Broken wires Ground switch left on Ground jumper left on Foreign material on H.V. frame or wires Broken insulators

Case 1:16-cv-01643 Document 1-3 Filed 08/12/16 Page 38 of 44

Table -1 (Continued)

Symptom	Cause	Remedy
Abnormally low precipitator current and primary voltage with no sparking	Misadjustment of current and/or voltage limit controls	Check settings of current and voltage limit controls.
	Misadjustment of firing circuit control	Turn to maximum (clockwise) and check setting of current and voltage limit controls.
Spark meter reads high -- off scale Low primary voltage and current No spark rate indication	Continuous conduction of spark counting circuit	Deenergize, allow integrating capacitor to discharge, and reenergize
	Spark counter counting 60 cycles peak	Readjust
	Failure	Replace
Spark meter reads high; primary voltage and current very unstable	Misadjustment of control circuit	Readjust
	Loss of limiting control	Replace
Neither spark rate, current, nor voltage at maximum	Misadjustment of control circuit	Readjust setting
	Failure	Replace
	Failure of signal circuits	Check signal circuits
No spark rate indication; voltmeter and ammeter unstable, indicating sparking	Failure of spark meter	Replace spark meter
	Failure of integrating capacitor	Replace capacitor
	Spark counter sensitivity too low	Readjust
No response to current limit adjustment; however, does respond to other adjustments	Controlling on spark rate or voltage limit	None needed if unit is operating at maximum spark rate or voltage adjustment Reset voltage or spark rate if neither is at maximum
	Failure	Replace
	Current signal defective	Check signal circuit
No response to voltage limit adjustment; however, does respond to current adjustment	Controlling on current limit or spark rate	None needed if unit is operating at maximum current or spark rate Reset current and spark rate adjustment if neither is at maximum
	Voltage signal defective	Check voltage signal circuit
	Failure	Replace

Case 1:16-cv-01643 Document 1-3 Filed 08/12/16 Page 39 of 44

Case 1:16-cv-01643 Document 1-3 Filed 08/12/16 Page 40 of 44

Table -1 (Continued)

Symptom	Cause	Remedy
No response to spark rate adjustment; however, does respond to other adjustment	Controlling on voltage or current	None needed if unit is operating at maximum voltage or current. Reset voltage and current adjustment if neither is at maximum
	Failure	Replace
Precipitator current low with respect to primary current. Low or no voltage across ground return resistors	Surge arrestors shorted	Reset or replace surge arrestors
	H.V. rectifiers failed	Replace H.V. rectifiers
	H.V. transformer failed	Replace H.V. transformer
	Ground or partial ground in the ground return circuit	Repair ground return circuit

Table -2

TROUBLESHOOTING CHART FOR ESP OPERATION (81)

Symptom	Probable Cause	Remedy
Spark meter reads high, primary voltage and current very unstable	Misadjustment of automatic control, loss of limiting control	Readjust automatic control, replace automatic control
Neither spark rate, current, nor voltage at maximum	Misadjustment of automatic control, automatic control not at maximum, failure of signal circuits	Readjust setting of automatic control, readjust automatic control, check signal circuits
No spark rate indication, voltmeter and ammeter unstable, indicating sparking	Failure of spark meter, failure of integrating capacitor, spark counter sensitivity too low	Replace spark meter, replace capacitor, readjust potentiometer on automatic control
No response to current-limit adjustment, response to other adjustments	Controlling on spark rate or voltage limit, failure of automatic control, current signal to automatic control defective	None needed if unit is operating at maximum spark rate or voltage adjustment, reset voltage or spark rate if neither is at maximum, replace automatic control, check signal circuit
No response to voltage-limit adjustment, response to current adjustment	Controlling on current limit or spark rate, voltage signal to automatic control defective, failure of automatic control	None needed if unit is operating at maximum current or spark rate, reset current and spark rate adjustment if neither is at maximum, check voltage circuit, replace automatic control
No response to spark rate adjustment, response to other adjustment	Controlling on voltage or current, failure of automatic control	None needed if unit is operating at maximum voltage or current, reset voltage and current adjustment if neither is at maximum, replace automatic control
Precipitator current low with respect to primary current, low or no voltage across ground return resistors	Surge arrestors shorted, H.V. rectifiers failed, H.V. transformer failed, ground or partial ground in the ground return circuit	Reset or replace surge arrestors, replace H.V. rectifiers, replace H.V. transformer, repair ground return circuit
	Transformer-Rectifier Controls	
No primary voltage, no primary current, no precipitator current, vent fan on, alarm energized	DC overload, misadjustment of current limit control, overdrive of SCR's	Check overload relay setting, check wiring and components, check adjustment of current-limit control setting, check signal from firing circuit module
No primary voltage, no primary current, no precipitator current, vent fan off, alarm energized	Control panel fuse blown, loss of power supply, circuit breaker tripped	Replace fuse or reset circuit breaker check supply to control unit, reset circuit breaker

Case 1:16-cv-01643 Document 1-3 Filed 08/12/16 Page 41 of 44

Table 7-2 (Continued)

Symptom	Probable Cause	Remedy
Control unit trips out on over-current when sparking occurs at high currents	Overload circuit incorrectly set	Reset overload circuit
High primary current, no precipitator current	Short circuit in primary current, transformer or rectifier short	Check primary power wiring, check transformer and rectifiers
No primary voltage, no primary current, no precipitator current, vent fan on, alarm not energized	SCR and/or diode failure, no firing circuit	Replace, check signal from firing circuit
Low primary voltage, high secondary current	Short circuit in secondary circuit or precipitator	Check wiring and components in H.V. circuit and pipe and guard. Check precipitator for interior dust buildup, full hoppers, broken wires, ground switch left on, ground jumper left on, foreign materials on H.V. frames or wires, broken insulators
Abnormally low precipitator current and primary voltage with no sparking	Misadjustment of current and/or voltage limit controls, misadjustment of firing circuit control	Check setting of current and voltage limit controls
Spark meter reads high-off scale, low primary voltage and current, no spark rate indication	Continuous conduction of spark counting circuit, spark counter counting 60 cycles peak, failure of automatic control	De-energize, allow integrating capacitor to discharge and re-energize, adjust spark control circuit, replace automatic control
Primary current and secondary current normal, primary voltmeter drops from normal to zero and remains for a second then jumps back to normal, repeating this sequence rhythmically	Broken, wire, swinging frame	Remove broken wire, check for broken anti-sway bushings
	Rapper Controls	
Circuit breaker trips	Short circuit or component failure in control circuit or power transformer	Check wiring and component
Fuses blown, indicator light not flashing	Control circuit failure, rapper coil failure, distributor switch firing two coils at once	Replace defective component, replace coil, repair or realign distributor switch

Case 1:16-cv-01643 Document 1-3 Filed 08/12/16 Page 42 of 44

Table .-2 (Continued)

Symptom	Probable Cause	Remedy
Indicator light not flashing, no fuse failure	Control circuit not operating effectively, no rotation of distributor switch	Repair or replace component, check motor and drive train
No manual intensity control	Failed potentiometer, faulty intensity control module	Replace potentiometer, replace intensity control module
	Vibrators and Controls	
Vibrator inoperative	Vibrator coil open circuited, vibrator improperly adjusted	Replace coil, adjust vibrator
Abnormal ammeter reading	Vibrator improperly adjusted, vibrator coil short circuited	Adjust vibrator, replace coil
Line breaker trips	Short circuit in control wiring	Check circuit

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

BACKGROUND

Morgantown Generating Station is engaged in the generation of electric energy. The primary SIC code for this plant is 4911. The major components of the facility consists of two (2) steam units primarily firing bituminous coal, four (4) auxiliary boilers firing on No. 2 fuel oil, six (6) combustion turbines firing on No. 2 fuel oil and their associated fuel storage and handling equipment. The gross winter capacity of the facility is 1580 MW.

Each of the two (2) boilers, manufactured by Combustion Engineering (CE) is rated at 640 MW. Each boiler is a tangentially coal fired supercritical unit with a superheater, single reheat and economizer. Units 1 and 2 are each equipped with Low NO_X burners (LNBs), Electrostatic Precipitators (ESP), Selective Catalytic Reduction (SCR), Over Fire Air (OFA) and Flue Gas Desulfurization (FGD) and exhausted through a 400 foot high stack. When the FGD systems are not in use, the flue gas is exhausted through a 700 foot high stack. The Units also have the capability of firing on No. 6 oil as an alternative primary fuel.

Three (3) auxiliary boilers are CE (Model No.30 VP-12W) package boilers each rated at 164 MMBtu/hr and one (1) auxiliary boiler is a CE (Model No.30VP2180R/48) rated at 219.3 MMBtu/hr. These auxiliary boilers fire No. 2 oil and are used for start-up steam and space heating.

Combustion Turbines CT-1 and CT-2 are General Electric (GE) Frame-5 each rated at 20 MWs and fired on No. 2 fuel oil. These CTs are both used for blackstart and peaking purposes. Combustion Turbines CT-3, 4, 5 and 6 are GE Frame -7 each rated at 65 MW and fired on No. 2 fuel oil. These CTs are used for peaking purposes.

A coal barge unloader system, a gypsum barge loading system, a coal blending system and a fly-ash beneficiation facility (STAR) are also located at the station.

The following table summarizes the actual emissions from Morgantown Generating Station based on its Annual Emission Certification Reports:

Table 1: Actual Emissions

Year	NO_X (TPY)	SO_X (TPY)	$PM_{10}/PM_{2.5}$ (TPY)	CO (TPY)	VOC (TPY)	Total HAP (TPY)
2013	731	2475	232/108	394	38	62
2012	836	2965	296/133	521	51	79
2011	1281	5198	360/156	660	67	107
2010	1905	5286	301/130	760	77	2032
2009	1963	69571	1201/520	702	71	Not Reported

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

The major source threshold for triggering Title V permitting requirements in Charles County is 25 tons per year for NO_X and VOCs, 100 tons per year for any other criteria pollutant, and 10 tons per year of any single hazardous air pollutant (HAP) or 25 tons per year of any combination of HAPs. Since actual emissions of NO_X, SO_X, VOC, PM_{10} and CO are greater than the major source threshold, Morgantown Generating Station is required to obtain a Title V Part 70 Operating Permit under COMAR 26.11.03.01.

The Department, on October 2, 2012, received the Morgantown Generating Station's Part 70-permit renewal application, which was submitted by NRG Energy, Inc. An administrative completeness review was conducted and the application was deemed complete. A completeness determination letter was sent to NRG Energy, Inc. on November 1, 2012 granting Morgantown Generating Station an application shield.

CHANGES AND MODIFICATIONS TO THE PART 70 OPERATING PERMIT

The following changes and/or modifications have been incorporated into the renewal Title V – Part 70 Operating Permit for Morgantown Generating Station:

Additions to the facility

On January 30, 2009, NRG received a CPCN (Case No. 9148) for a Coal Blending System and Gypsum Barge Unloading System. [**017-0014-6-0154 & 017-0014-6-0153**]. The Gypsum Barge Unloading System commenced operation on December 30, 2009. The north yard of the coal blending system commenced operation April 12, 2010 and the south yard commenced operation on December 17, 2010.

On August 29, 2007, NRG received a CPCN (Case No.9085) for a FGD System to control emissions from Units F1 and F2. The FGD System commenced operation in December 2009.

On January 31, 2011, NRG received a CPCN (Case No. 9229) for a STAR Facility. [**6-0150**]. The facility commenced operation January 4, 2012. On February 5, 2013, an administrative change issued to address Condition A-7g of the CPCN adding a duration period for SO_2 emissions.

Removal from the facility

Synthetic Fuel manufacturing facility (6-0115) was removed in 2007.

Name Change

Effective December 14, 2012, NRG Energy, Inc. (NRG) and GenOn Energy, Inc. (GenOn) combined and retained the name NRG Energy, Inc. As a result of the merger, all GenOn entities became wholly owned subsidiaries of NRG. The legal entity for Morgantown remains GenOn Mid-Atlantic, LLC.

On January 25, 2011, Mirant Mid-Atlantic LLC notified the Department that they merged with RRI Energy Inc. to form GenOn Energy Inc. and will be trading as GenOn Mid-Atlantic, LLC.

MACT and NSPS

Morgantown Generating Station is a major source of HAPs and is subject to the following MACT standards (40 CFR Part 63):

1. Subpart UUUUU—National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (F1 and F2)
2. Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (F-Aux1 through F-Aux4).

Morgantown Generating Station is subject to NSPS (40 CFR Part 60), Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (F-Aux2).

Morgantown Generating Station is subject to the NO_X Reasonably Available Control Technology (RACT) requirements, Acid Rain Program, and the Cross State Air Pollution Rule (CSAPR). Morgantown Generating Station is also subject to the requirements of the Regional Greenhouse Gas Initiative (RGGI) program which is a State-only enforceable program. Under these regulations, NRG is required to submit a RGGI permit application. The renewal RGGI permit upon issuance will be attached to the Part 70 permit.

Cross-State Air Pollution Rule (CSAPR)

The U.S. Environmental Protection Agency (EPA) issued the Cross-State Air Pollution Rule (CSAPR) in July 2011 to address Clean Air Act requirements concerning interstate transport of air pollution and to replace the previous Clean Air Interstate Rule (CAIR) which the D.C. Circuit remanded to the EPA for replacement. Following the original rulemaking, CSAPR was amended by three further rules known as the Supplemental Rule, the First Revisions Rule, and the Second Revisions Rule. As amended, CSAPR requires 28 states to limit their state-wide emissions of sulfur dioxide (SO_2) and/or nitrogen oxides (NO_X) in order to reduce or eliminate the states' contributions to fine particulate matter and/or ground-level ozone pollution in other states. The emissions limitations are defined in terms of maximum state-wide "budgets" for emissions of annual SO_2, annual NO_X, and/or ozone season NO_X by each state's large electricity generating units (EGUs). The emissions budgets are implemented in two phases of generally increasing stringency. As the mechanism for achieving compliance with the emissions limitations, CSAPR establishes federal implementation plans (FIPs) that require large EGUs in each affected state to participate in one or more new emission trading programs that supersede the existing CAIR emissions trading programs. On December 30, 2011, in response to petitions challenging CSAPR, the D.C. Circuit granted a stay of the rule, ordering the EPA

to continue administering CAIR on an interim basis. In a subsequent decision, the Court vacated CSAPR but on April 29, 2014, the U.S. Supreme Court reversed that decision and remanded the case to the D.C. Circuit Court for further proceedings. In order to allow CSAPR to replace CAIR in an orderly manner, EPA filed a motion asking the D.C. Circuit to lift the stay and to toll, by three years, all CSAPR compliance deadlines that had not yet passed. On October 23, 2014, the Court granted the EPA's motion.

Consistent with the Court's order, compliance with CSAPR's Phase 1 emissions budgets is now required in 2015 and 2016 and compliance with the rule's Phase 2 emissions budgets and assurance provisions is now required in 2017 and beyond.

This renewal Part 70 permit identifies the applicable regulations of the CSAPR rule as found in 40 CFR Part 97 subparts AAAAA- NO_X Annual Trading Program, subparts BBBBB- NO_X Ozone Season Trading Program, and subpart CCCCC SO_2 Group 1 Trading Program.

COMPLIANCE ASSURANCE MONITORING

Morgantown Generating Station conducted a Compliance Assurance Monitoring (CAM) analysis for the facility and determined that only the particulate matter emissions from Units F1and F2 boilers by-pass stack are subject to CAM requirements. The renewal application was submitted to the Department with a CAM analysis for particulate matter emissions from Units F1 and F2 boilers by-pass stacks. Units F1 and F2 boilers are subject to the requirement of 40 CFR Part 63 Subpart UUUUU (compliance date of April 16, 2015) which is a post 11/15/1990 NESHAP. Pursuant to 40 CFR Part 64.2(b), emission units subject to MACT standards is exempted from CAM Requirements. Therefore Morgantown Generating Station is exempt from the CAM requirements after the compliance date of April 16, 2015 or compliance with the MACT, Subpart UUUUU.

CAM is intended to provide a reasonable assurance of compliance with applicable requirements under the Clean Air Act for large emission units that rely on air pollution control (APC) equipment to achieve compliance. The CAM approach establishes monitoring for the purpose of: (1) documenting continued operation of the control measures within ranges of specified indicators of performance (such as emissions, control device parameters, and process parameters) that are designed to provide a reasonable assurance of compliance with applicable requirements; (2) indicating any excursions from these ranges; and (3) responding to the data so that the cause or causes of the excursions are corrected. In order for a unit to be subject to CAM, the unit must be located at a major source, be subject to an emission limitation or standard; use a control device to achieve compliance; have post-control emissions of at least 100% of the major source amount (for initial CAM submittals); and must not otherwise be

exempt from CAM. Applicability determinations are made on a pollutant-by-pollutant basis for each emission unit.

MERCURY AND AIR TOXICS (MATS) RULE

The US EPA finalized on February 16, 2012, the National Emissions Standards for Hazardous Air Pollutants from coal and oil-fired Electric Utility Steam Generating Units (EGUs) codified under 40 CFR Part 63, Subpart UUUUU, also known as the Mercury and Air Toxics (MATS) rule. The MATS rule established national emission limitations and work practices for certain hazardous air pollutants emitted from coal and oil-fired steam generating units as well as requirements to demonstrate initial and continuous compliance with the emission limitations. Existing units are required to comply with the rule requirements by April 16, 2015 while new or reconstructed units were required to comply by April 16, 2012 or upon start-up.

Morgantown Generating Station is subject to the requirements of this rule because it meets the applicability requirements for the rule as an existing source. A source is subject to the rule if it is a coal-fired EGU or oil-fired EGU as defined in §63.10042. The section defined a coal-fired electric utility steam generating unit as an electric utility steam generating unit meeting the definition of “fossil fuel-fired” that burns coal 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. The section also defined electric utility steam generating unit (EGU) as a fossil fuel-fired combustion unit of more than 25 megawatts electric (MWe) that serves a generator that produces electricity for sale. It further adds that a fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 MWe output to any utility power distribution system for sale is considered an electric utility steam generating unit. Coal-fired EGUs are subcategorized as defined in §63.10042 and as:
(1) EGUs designed for coal with a heating value greater than or equal to 8,300 Btu/lb, and
(2) EGUs designed for low rank virgin coal (Ref: §63.9990).

Morgantown Generating Station falls under the EGUs designed for coal with a heating value greater than or equal to 8,300 Btu/lb. Specific limitations and requirements, which Morgantown Generating Station must meet, are presented below and in the permit.

On June 29, 2015, the Supreme Court issued an opinion in Michigan et al v. Environmental Protection Agency. The Supreme Court's decision remands the MATS rule to EPA and returns the matter to the U.S. Court of Appeals for the D.C. Circuit for further proceedings. As of the issuance of this permit, the MATS rule is in effect. The Supreme Court decision in Michigan requires the EPA to undertake additional proceedings for the limited purpose of evaluating costs for

its "appropriate and necessary" finding which preceded the MATS rule. Until and unless the MATS rule is stayed and/or vacated by the D.C. Circuit, MATS related conditions in the Title V permit apply. If the MATS rule is stayed and/or vacated or partially stayed and/or vacated then the affected conditions in the Title V permit will be revised/removed accordingly.

The MATS rule reduces emission of heavy metals including mercury (Hg), arsenic (As), chromium (Cr), nickel (Ni) and acid gases, including hydrochloric acid (HCl) and hydrofluoric acid (HF). In the rule, particulate matter (PM) is a surrogate for toxic non-mercury metals and HCl is a surrogate for toxic acid gases. Sulfur dioxide (SO_2) may also be a surrogate for HCl, if the EGU has a flue gas desulfurization (FGD) system. Morgantown's two EGUs has CEM systems that continuously monitors emissions including PM, SO_2 and Hg. Emissions monitored by these CEM will be used to demonstrate compliance with the MATS rule by calculating the 30-boiler operating day arithmetic averages. Morgantown must begin and continue collecting PM, SO_2 and Hg data by September 12, 2015. The MATS rule also requires EGUs to startup and shutdown on a clean fuel; therefore Morgantown EGUs startup and shutdown operating on ultra low sulfur diesel fuel. The rule also requires periodic tune-ups for the EGU burner and combustion controls.

Potomac River Consent Decree

NRG entered into an Amended Consent Decree ("Potomac River Consent Decree") with the State of Virginia, the State of Maryland and EPA Region III on 4/18/07. The Potomac River Consent Decree established a system-wide NO_X emission cap on the Chalk Point (Maryland), Dickerson (Maryland), **Morgantown (Maryland)**, and Potomac River (Virginia) electric generating stations. The Potomac River Consent Decree caps went into effect prior to the Healthy Air Act reductions of 2009. The reductions under the Potomac River Consent Order, in many cases, are now superseded by the more stringent requirements of the Healthy Air Act. The Potomac River Consent Decree states that "Within one hundred eighty (180) days after entry of this Consent Decree, NRG shall apply for amendment of its Title V permits or applicable state operating permits for each plant in the NRG System, and amend any existing Title V permit application, to include a schedule for all Unit-specific and system-wide performance, operational, maintenance and control technology requirements established by this Consent Decree including, but not limited to, the Unit-specific NO_X emission control requirements set forth in Section IV, Subsections A (Potomac River Plant) and B (Morgantown Plant), the Unit-specific SO_2 and Mercury emission control requirements, as applicable, set forth in Section XVIII (Severing the Morgantown Plant or both the Morgantown and Dickerson Plants: Alternative Control Requirements), the System-Wide Ozone Season Emission Rate, System-Wide Annual Tonnage Limitations, System-Wide ozone Season Tonnage Limitations, and, as to the Potomac River Plant's permits only, the

Potomac River Annual and Ozone Season Tonnage Limitations, as set forth in this Consent Decree."
Please Note: Potomac River Station is no longer in operation, shutdown October 2012.

MARCH 2008 – Opacity CONSENT DECREE

In 2008, NRG entered into a Consent Decree with the Department regarding violations of State air pollution laws and regulations at NRG's three electric generating stations including the Morgantown Generating Station. Requirements from this Consent Decree are discussed in the fact sheet and have been incorporated into the Title V permit.

Please Note: Letter dated October 6, 2011 from MDE granting NRG's Petition to withdraw from the 170-day particulate matter stack testing requirements of the March 6, 2008 Opacity Consent Decree since the PM CEMs have been reliably operating for a period of at least one year and generating particulate matter emissions data that is deemed accurate by the Department. Effective October 1, 2011, NRG ceased performing the 170-day particulate matter stack tests on the Morgantown, Dickerson and Chalk Point Generating Stations and began performing annual particulate matter stack tests in 2012. NRG shall continue to operate and maintain all four PM CEMs on the three generating stations.

HEALTHY AIR ACT

Under the Healthy Air Act, which was signed into law on April 6, 2006, NRG is required to cap emissions of coal-fired units including the coal fired units (Units 1 and 2) at Morgantown Generating Station. The NO_X reductions under the Healthy Air Act occurred in two phases, 2009 and 2012. NRG installed pollution control equipment at Morgantown Generating Station in order to comply with Healthy Air Act requirements by reducing NO_X, SO_2 and mercury emissions.

On August 29, 2007, NRG received a Certificate of Public Convenience and Necessity (CPCN) from the Public Service Commission (Case #9085) for the installation of a flue gas desulfurization (FGD) system and associated equipment to control sulfur dioxide (SO_2) and mercury air emissions. The FGD system became operational in December 2009.

Regional Greenhouse Gas Initiative

The Regional Greenhouse Gas Initiative (RGGI) is a market-based carbon dioxide (CO_2) cap and trade program designed to reduce CO_2 emissions from fossil fuel-fired power plants. It is a Maryland State-only enforceable program. The Healthy Air Act (discussed above) required Maryland to join RGGI by July 2007. Maryland joined RGGI by signing RGGI's multi-state Memorandum of Understanding (MOU) on April 20, 2007. The MOU required Maryland to adopt regulations by December 31, 2008, implementing the RGGI program. The Maryland CO_2 Budget Trading Program, Code of Maryland Regulations

(COMAR) 26.09.01 to .03, became effective on July 17, 2008. COMAR 26.09.04 became effective as an emergency action on April 4, 2008 and as a permanent action on August 25, 2008.
The regulations require the following:

1) Implement a cap and trade program for CO_2 emissions from fossil fuel-fired electric generating units located in Maryland having a capacity of at least 25 megawatts;
2) Distribute CO_2 allowances to stakeholders through auction, sale and/or allocation;
3) Require each affected source to have a CO_2 budget account representative and a compliance account;
4) Require each budget unit to hold in its source's compliance account at the end of each 3-year control period one allowance for each ton of CO_2 emissions emitted in that period;
5) Require sources to monitor emissions and submit quarterly and annual emission reports;
6) Establish set-aside accounts for voluntary renewable purchase, limited industrial generator exemptions, and long-term contract generators;
7) Establish a consumer benefit or strategic energy purpose fund to support energy efficiency, directly mitigate electricity ratepayer impacts, promote renewable or non-carbon emitting energy technologies, stimulate or reward investment in the development of innovative carbon emissions abatement technologies with significant carbon reduction potential, and fund administration of the program; and
8) Establish procedures to evaluate and award allowances to persons who undertake offset projects that will reduce CO_2 emissions.
9) Require affected sources to submit an application for a CO_2 Budget Permit. A CO_2 Budget Permit when issued will be an attachment to the Part 70 permit.

GREENHOUSE GAS (GHG) EMISSIONS

Morgantown Generating Station emits the following greenhouse gases (GHGs) related to Clean Air Act requirements: carbon dioxide, methane, and nitrous oxide. These GHGs originate from various processes (i.e. boilers, combustion turbines) contained within the facility premises applicable to NRG Morgantown Generating Station. The facility has not triggered Prevention of Significant Deterioration (PSD) requirements for GHG emissions; therefore, there are no applicable GHG Clean Air Act requirements. While there may be no applicable requirements as a result of PSD, emission certifications reports for the years 2009, 2010, and 2011, showed that NRG Morgantown Generating Station is a major source (threshold: 100,000tpy CO_2e) for GHG's (see Table 3 shown below). The Permittee shall quantify facility wide GHGs emissions and report them in accordance with Section 3 of the Part 70 permit.

The following table summarizes the actual emissions from Morgantown Generating Station based on its Annual Emission Certification Reports:

Table 3: Greenhouse Gases Emissions Summary

GHG	Conversion factor	2010 tpy CO_2e	2011 tpy CO_2e	2012 tpy CO_2e	2013 tpy CO_2e
Carbon dioxide CO_2	1	7,977,234	6,705,807	5,248,263	4,028,640
Methane CH_4	25	59.6	51.2	83.6	64.6
Nitrous Oxide N_2O	298	125.6	108.4	84.9	72.2
Total GHG CO_{2eq}		**7,977,419**	**6,705,966**	**5,248,432**	**4,028,777**

EMISSION UNIT IDENTIFICATION

Morgantown Generating Station has identified the following emission units as being subject to Title V permitting requirements and having applicable requirements.

Table 2: Emission Unit Identification

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
F1	3-0002	Unit 1: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and economizer. The Unit is equipped with a LNBs, SCR, ESP and FGD. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No. 6 oil as an alternative primary fuel	June 1970 (Commercial operation date)
F2	3-0003	Unit 2: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and	June 1971 (Commercial operation date)

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
		economizer. The Unit is equipped with a LNBs, SCR, ESP and FGD. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No. 6 oil as an alternative primary fuel	
F-CT 1	4-0068	General Electric Frame 5 combustion turbine rated at 20 MW and used for black start capability and peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	March 1970
F-CT 2	4-0069	General Electric Frame 5 combustion turbine rated at 20 MW and used for black start capability and peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1971
F-CT 3	4-0070	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-CT 4	4-0071	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-CT 5	4-0073	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-CT 6	4-0074	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
F-Aux 1	4-0015	Auxiliary boiler No. 1 manufactured by CE-Alstom (Model No.30 VP-12W) is used for start-up steam and space heat heating. Auxiliary boiler No. 1 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	1970
F-Aux 2	4-0191	Auxiliary boiler No. 2 manufactured by CE-Alstom (Model No.30VP21808R/48) is used for start-up steam and space heat heating. Auxiliary boiler No. 2 is fired with #2 fuel oil and has a maximum rating of 219.3 mmBtu/hr.	June 2004
F-Aux 3	4-0017	Auxiliary boiler No.3 manufactured by CE-Alstom (Model No.30 VP-12W) is used for start-up steam and space heat heating. Auxiliary boiler No. 3 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	1970
F-Aux 4	4-0018	Auxiliary boiler No. 4 manufactured by CE-Alstom (Model No.30 VP-12W) is used for start-up steam and space heat heating. Auxiliary boiler No. 4 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	1970
Coal Barge Unloader	6-0138 (CPCN 9031)	The barge loading facility consists of a dock, barge unloader, a transfer and distribution system and a railcar loading facility. The barge unloader system is sized to unload up to 5.0 million tons of coal per year. The barge unloader's transfer and distribution system is integrated into Morgantown's existing coal handling system.	October 2007
Gypsum Barge Loading System	017-0014-6-0153 (CPCN 9148)	The Gypsum Barge Loading System is to convey and load gypsum produced by both the Chalk Point and Morgantown SO_2 FGD systems. The Gypsum Barge Loading System consists of the following subsystems: 1000-tph conveyor system; five transfer towers, one pier tripper conveyor, one telescoping barge load-out	October 2007

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
		conveyor and rail unloading hopper and conveyor for chalk Point gypsum transfer.	
FGD System	(CPCN 9085)	A wet flue gas desulfurization (FGD) system is installed on both Units 1 and 2. The FGD system controls SO_2 and Hg. The FGD system uses limestone slurry with in-situ forced oxidation, producing gypsum by-product. The FGD system consists of the following sub-systems: limestone unloading and storage facilities; limestone slurry preparation and feed; SO_2 absorption tower; gypsum dewatering and loading facilities and three emergency diesel engines.	December 2009
Coal Blending System	017-0014-6-0154 (CPCN 9148)	The coal blending system is designed to blend various coals with different characteristics to match the specification of the Morgantown's boilers and air quality control equipment. The coal blending system consists of the following subsystems: new stack-out facilities in the south coal yard; underground reclaim facilities in existing south and north coal yards; reclaim transfer point to integrate the reclaim from the north and south coal yards; refurbished and upgraded emergency reclaim; and enclosed transfer station with dust suppression system.	March 2010
STAR	6-0150 (CPCN 9229)	The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization scrubber system. Exhaust gases are directed through a 125 foot stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome	December 2011

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
		which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems.	

AN OVERVIEW OF THE PART 70 PERMIT

The Fact Sheet is an informational document. If there are any discrepancies between the Fact Sheet and the Part 70 permit, the Part 70 permit is the enforceable document.

Section I of the Part 70 Permit contains a brief description of the facility and an inventory list of the emissions units for which applicable requirements are identified in Section IV of the permit.

Section II of the Part 70 Permit contains the general requirements that relate to administrative permit actions. This section includes the procedures for renewing, amending, reopening, and transferring permits, the relationship to permits to construct and approvals, and the general duty to provide information and to comply with all applicable requirements.

Section III of the Part 70 Permit contains the general requirements for testing, record keeping and reporting; and requirements that affect the facility as a whole, such as open burning, air pollution episodes, particulate matter from construction and demolition activities, asbestos provisions, ozone depleting substance provisions, general conformity, and acid rain permit. This section includes the requirement to report excess emissions and deviations, to submit an annual emissions certification report and an annual compliance certification report, and results of sampling and testing.

Section IV of the Part 70 Permit identifies the emissions standards, emissions limitations, operational limitations, and work practices applicable to each emissions unit located at the facility. For each standard, limitation, and work practice, the permit identifies the basis upon which the Permittee will demonstrate compliance. The basis will include testing, monitoring, record keeping, and reporting requirements. The demonstration may include one or more of these methods.

Section V of the Part 70 Permit contains a list of insignificant activities. These activities emit very small quantities of regulated air pollutants and do not require

a permit to construct or registration with the Department. For insignificant activities that are subject to a requirement under the Clean Air Act, the requirement is listed under the activity.

Section VI of the Part 70 Permit contains State-only enforceable requirements. Section VI identifies requirements that are not based on the Clean Air Act, but solely on Maryland air pollution regulations. These requirements generally relate to the prevention of nuisances and implementation of Maryland's Air Toxics Program.

REGULATORY REVIEW/TECHNICAL REVIEW/COMPLIANCE METHODOLOGY

Emission Units: F1 and F2: Boilers

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and economizer. The Unit is equipped with LNBs, SCR, ESP and FGD. The unit's exhaust is directed to an individual flue 400 foot stack equipped with two flow monitors and continuous emission monitors (CEMs) for PM, NO_X, SO_2, CO_2 and Hg. The Unit maintains the capability of firing No.6 oil as an alternative primary fuel. (**3-0002**)

F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and economizer. The Unit is equipped with LNBs, SCR, ESP and FGD. The unit's exhaust is directed to an individual flue 400 foot stack equipped with two flow monitors and continuous emission monitors (CEMs) for PM, NO_X, SO_2, CO_2 and Hg. The Unit maintains the capability of firing No.6 oil as an alternative primary fuel. (**3-0003**)

By-pass stack operation:
There are several operating scenarios where the Morgantown bypass stack must run for equipment and/or operator safety reasons. The Flue Gas Desulfurization (FGD) system installed at the plant extended the boiler flue gas path substantially. New ductwork and scrubber vessel added a significant pressure drop to the system which is overcome by a pair of axial booster fans just upstream of the scrubber. This configuration is sensitive to pressure excursions, and the bypass stack acts as a "safety valve" to relieve high or low pressure excursions.
Scrubber Trip: When the scrubber trips, such as when a booster fan shuts down suddenly, flue gas flowing from the boilers has nowhere to go, causing duct pressure to build up quickly. Opening the bypass stack relieves this unsafe pressure excursion and allows the units to continue to generate electricity while the trip is investigated. In cases where the scrubber can be returned to service

quickly, the plant can resume normal operations much more rapidly than if the units were tripped and restarted.

Unit Start Up: Whenever a unit starts up, NFPA rules require a gas path to atmosphere and minimum air flow be established before putting a fire in the boiler. The bypass stack is used for this purpose because the FGD booster fans are not stable at the low air flow rates needed for boiler light off.

Unit Shutdown: Any time the plant shuts down from a single unit operation, the bypass stack is opened to vent residual flue gases and purge the boiler, per NFPA rules, using natural draft of the taller (700 ft.) stack. Due to the high pressure drop associated with the FGD stack, it cannot establish a natural draft to vent the boilers.

On-Line Scrubber Maintenance: Any time the plant conducts on-line Scrubber maintenance requiring the scrubber to be bypassed, the bypass stack is used to vent flue gases.

Scrubber Electric Power Interruption: Any time the electric power is interrupted to the Scrubber requiring the Scrubber to be bypassed, the bypass stack is used to vent flue gases.

When venting through the by-pass stacks the exhaust gases do not pass through the FGD systems. Each 700 foot by-pass stack is equipped with two flow monitors, a continuous opacity monitor (COM) and CEMs for NO_X, SO_2, CO_2 and Hg. Compliance with the PM standard is demonstrated using stack testing, Compliance Assurance Monitoring (CAM) and the COMs on the by-pass stacks. Emissions of NO_X, SO_2, CO_2 and Hg from the by-pass stack are combined with the emissions from the units' FGD (normal operations) to demonstrate compliance with the HAA and all other applicable standards.

NSPS

These boilers are not subject to requirements of 40 CFR Part 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units since these boilers commenced constructed prior to September 18, 1978.

MACT

These boilers are subject to the requirements of 40 CFR Part 63 Subpart UUUUU-National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (F1 and F2). See Table IV-1e.

Compliance Status

On September 4-5, 2014, particulate matter stack test was performed on NRG's Morgantown Unit #1 FGD system. Average unit load during runs of the test – 611 MW.

On July 30-31, 2014, particulate matter stack test was performed on NRG's Morgantown Unit #1 FGD system. Average unit load during runs of the test – 600 MW.

Results are as follows:

	Results Unit #1	Standard	Results Unit 2	Standard
PM filterable	0.012 lb/MMBtu	0.100 lb/MMBtu per the March 2008 Consent Decree	0.007 lb/MMBtu	0.100 lb/MMBtu per the March 2008 Consent Decree
PM Condensable	0.007 lb/MMBtu	None	0.014 lb/MMBtu	None
Total PM	0.019 lb/MMBtu	None	0.021 lb/MMBtu	None

In accordance with COMAR 26.11.27.05B, NRG is required to submit an annual HAA report to MDE by March 1st of each year. The 2014 report was received by MDE electronically on February 26, 2015.

The report includes the 2012 annual SO_2, NO_X, and Hg emissions as well as the 2012 ozone season NO_X emissions from each coal fired unit at NRG's three generating stations (Morgantown, Dickerson and Chalk Point). The HAA annual and Ozone season NO_X emission limits became effective at the beginning of 2009 while the SO_2 & Hg emission limits became effective at the beginning of 2010. In 2012, the annual NO_X and Ozone season NO_X limits were reduced. Compliance with the HAA's NO_X and SO_2 limits are determined on a system-wide basis for NRG.

NRG reported 2014 annual system-wide NO_X emissions – 6,210 tons (limit 8,298 tons) – in compliance
NRG reported 2014 ozone season system-wide NO_X emissions – 1,863 tons (limit 3,567 tons) – in compliance
NRG reported 2014 system-wide SO_2 emissions – 7,356 tons (limit 18,541 tons) – in compliance
Morgantown's Hg emissions- 2.1 lbs/yr (limit 66 lbs/yr) or 2.3 oz/tbtu (limit 14 oz/tbtu) – in compliance*

* The HAA Hg limit is a 12-month rolling limit. NRG only reported their annual 12-month calendar Hg emissions. Since their annual calendar emissions for Hg is so far below the emission limit, it is assumed that all 12-month rolling periods will also be below the emission limit. Monthly updates of 12-month rolling mercury emissions compliance can be found in the quarterly reports submitted to the Department.

Applicable Standards and Limitations:

A. Control of Visible Emissions

COMAR 26.11.09.05A (1) & (3) – Fuel Burning Equipment

"Areas I, II, V, and VI. In Areas I, II, V, and VI, 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 greater than 20 percent opacity.

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 Permittee shall comply with the terms of the March 2008 Consent Decree. Compliance with the March 2008 Consent Decree will be considered compliance for **COMAR 26.11.09.05A(1)**. See the details of the March 2008 Consent Decree in Table IV-1b.

See State-only for additional visible emissions requirements.

Compliance Demonstration

The Permittee shall perform quality assurance procedures on the continuous opacity monitoring system as established in COMAR 26.11.31. **[Reference: COMAR 26.11.03.06C**]
The Permittee, in accordance with **COMAR 26.11.01.10B,** shall continuously monitor opacity of the stack gases using a continuous opacity monitor that is certified in accordance with 40 CFR Part 60, Appendix B and meets the quality assurance criteria of **COMAR 26.11.31. [Reference: COMAR 26.11.01.10C]**
The Permittee shall maintain all records necessary to comply with the data reporting requirements by COMAR 26.11.01.11E**. [Reference COMAR 26.11.01.11E]**
The Permittee shall report:
All CEM system downtime that lasts or is expected to last more than 24 hours shall be reported to the Department by telephone before 10 a.m. of the first regular business day following the breakdown.
The system breakdown report required by Sec. E(1)(a) of this regulation shall include the reason, if known, for the breakdown and the estimated period of time that the CEM will be down. The owner or operator of the CEM shall notify the Department by telephone when an out-of-service CEM is back in operation and producing valid data. **[Reference: COMAR 26.11.01.11E(1)]**
The Permittee shall submit:
Quarterly summary reports to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by the Department, and shall include the following:
(i) The cause, time periods, and magnitude of all emissions which exceed the applicable emission standards;
(ii) The source downtime including the time and date of the beginning and end of each downtime period and whether the source downtime was planned or unplanned;

(iii) The time periods and cause of all CEM downtime including records of any repairs, adjustments, or maintenance that may affect the validity of emission data;
(iv) Quarterly totals of excess emissions, installation downtime, and CEM downtime during the calendar quarter;
(v) Quarterly quality assurance activities; and
(vi) Daily calibration activities that include reference values, actual values, absolute or percent of span differences, and drift status; and
(vii) Other information required by the Department that is determined to be necessary to evaluate the data, to ensure that compliance is achieved, or to determine the applicability of this regulation." **[Reference: COMAR 26.11.01.11E(2)]**

B. Control of Particulate Matter Emissions

COMAR 26.11.09.06A(1) – Fuel-Burning Equipment Constructed Before January 17, 1972. "A person may not cause or permit particulate matter caused by the combustion of solid fuel or residual fuel oil in the fuel burning equipment erected before January 17, 1972, to be discharged into the atmosphere in excess of the amounts shown in Figure 1." (**Note**: Maximum allowable value in Figure 1 is 1.4 pounds/million Btu of heat input)

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."

Note: Under **40 CFR Part 63, Subpart UUUUU—National Emission Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units (MATS rule),** the Permittee will comply with a PM emissions limit of 0.03 pounds/million Btu of heat input. See the details in the compliance tables for the MATS rule.

In addition, the Permittee must comply with a state-only enforceable requirement under the terms of the March 2008 Consent Decree. See the details of the March 2008 Consent Decree in State Only Section of the Permit under Emission Units F-1 and F-2.

Compliance Demonstration
The Permittee in accordance with COMAR 26.11.01.04A(1) and July 22, 1992 Consent Order, shall conduct annual testing. Annual testing shall be performed using EPA Reference Method 5 of 40 CFR Part 60 Appendix A (Section C). The Permittee shall submit a protocol to the Department for approval at least 30 days prior to the scheduled date of the test. The Permittee shall comply with the

particulate emission monitoring (PEM) requirements of 40 CFR Part 63, Subpart UUUUU. Also see requirements of the Enhanced Monitoring Plan for the bypass stack in Table IV-1b & 1c – Enhanced Emission Monitoring Plan. The Permittee shall maintain records of all particulate matter emissions tests. The Permittee shall report the results of the particulate matter stack test to the Department within 45 days after completion of the testing. **[Reference: COMAR 26.11.03.06C]**

C. Control of Sulfur Oxides

(1) **COMAR 26.11.09.07A(1)** - Sulfur Content Limitations for Fuel.

"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI:

(a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour;

(b) Residual fuel oils, 2.0 percent;

(c) Distillate fuel oils, 0.3 percent;

(d) Process gas used as fuel, 0.3 percent."

See additional requirements in Table IV-1e – CPCN 9085: FGD System.

Compliance Demonstration

For 1) through 3):

The Permittee shall continuously monitor sulfur dioxide emissions using a CEM that meet the requirements of 40 CFR Part 75, Subpart B §75.10A(1) & (2). This continuous monitoring system shall be used to collect emissions information to demonstrate compliance with NAAQS SO_2 standard, the Health Air Act limitations, the Acid Rain Program and the Cross-State Air Pollution Rule. **[Reference: COMAR 26.11.03.06C; COMAR 26.11.27.05A, July 22, 1992, Consent Decree, Acid Rain Permit and 40 CFR Part 63 Subpart CCCCC**].

The Permittee shall perform quality control/quality assurance procedures on the continuous emission monitoring system as established in 40 CFR Part 75, Appendix B. **[Reference: COMAR 26.11.01.11C]**

The Permittee shall maintain all records necessary to comply with data reporting requirements of COMAR 26.11.01.11E (2). **[Reference COMAR 26.11.01.11E(2)]**.

The Permittee shall a quarterly summary report to the Department not later than 30 days following each calendar quarter that contains the information listed in COMAR 26.11.01.1E(2)(c)(i) through (vii). **[Reference: COMAR 26.11.01.11E(2)]**.

(1) Emission Limitation for Power Plants requirements*:*
COMAR 26.11.27.03C. SO_2 Emission Limitations.
(1) Except as provided in §E of this regulation, annual SO_2 emissions from each affected electric generating unit may not exceed the number of tons in §C(2) of this regulation.
(2) Annual Tonnage Limitations.

Affected Unit	Annual SO_2 Tonnage Limitations Beginning
	January 1, 2013
Morgantown Unit 1	4,678 tons
Morgantown Unit 2	4,646 tons
System-wide	18,541 tons

COMAR 26.11.27.03E. System-Wide Compliance Determinations.
(1) Compliance with the emission limitations in §§B and C of this regulation may be achieved by demonstrating that the total number of tons emitted from all electric generating units in a system does not exceed the sum of the tonnage limitations for all electric generating units in that system.
(2) A system-wide compliance determination shall be based only upon emissions from units in Maryland that are subject to the emission limitations in §§B and C of this regulation.
(3) If a unit that is part of a system is transferred to a different person that does not own, operate, lease, or control an affected unit subject to this chapter, the transferred unit shall meet the limitations in §§B and C of this regulation applicable to that electric generating unit.

Compliance Demonstration
The Permittee shall continuously monitor sulfur dioxide emissions that meet the requirements of 40 CFR Part 75, Subpart B §75.10A(1) & (2). This continuous monitoring system shall be used to collect emissions information to demonstrate compliance with SO_2 standard, the Health Air Act limitations, the Acid Rain Program and the Cross-State Air Pollution Rule. **[Reference: COMAR 26.11.03.06C; COMAR 26.11.27.05A, Acid Rain Permit and 40 CFR Part 63 Subpart CCCCC**].
The Permittee shall maintain records sufficient to demonstrate compliance with the requirements of the Healthy Air Act, COMAR 26.11.27. [Reference: COMAR 26.11.01.05A].
COMAR 26.11.27.05 - Monitoring and Reporting Requirements.
B. Beginning with calendar year 2007 and each year thereafter, the owner or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year.
C. Each report shall include:
(1) Emissions performance results related to compliance with the emission requirements under this chapter;

(2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit;
(3) A current compliance plan; and
(4) Any other information requested by the Department.

(2) Acid Rain Permit
The Permittee shall comply with the requirements of the Phase II Acid Rain Permit issued for this generating station. Note: A renewal Phase II Acid Rain Permit will be issued in conjunction with this Part 70 permit and is attached to the Part 70 permit as Appendix A.

The Phase II Acid Rain permit requires the Permittee to limit the actual emissions of sulfur dioxide to the number of allowances that the Permittee holds in its Acid Rain account with the Environmental Protection Agency's Clean Air Markets Program at the end of each calendar year. NRG Morgantown is given 16,962 allowances for Unit 1 and 16, 216 allowances for Unit 2 each year in the period 2010 and beyond. An allowance is one ton of sulfur dioxide emissions. The Permittee is allowed to purchase additional allowances to cover any actual emissions in excess of the annual allowances granted the two units. Although the Permittee is allowed to purchase allowances, the Acid Rain permit prohibits the Permittee from emitting sulfur dioxide emissions in excess of applicable SO_2 emissions standard. The Permittee is required to submit all the emissions data collected from the CEM systems to the EPA Clean Air Markets Program.

Compliance Demonstration
The Permittee shall continuously monitor sulfur dioxide emissions that meet the requirements of 40 CFR Part 75, Subpart B §75.10A(1) & (2). This continuous monitoring system shall be used to collect emissions information to demonstrate compliance with SO_2 standard, the Health Air Act limitations, and the Acid Rain Program. **[Reference: COMAR 26.11.03.06C; COMAR 26.11.27.05A, and Acid Rain Permit**]. The Acid Rain Permit contain program specific recordkeeping requirements. **[Reference: 40 CFR Part 75, Subpart F].**

(3) Cross-State Air Pollution Rule
TR SO_2 Group 1 - Trading Program 40 CFR Part 97 Subpart CCCCC
The Permittee shall comply with the provisions and requirements of §97.601 through §97.635

Note: §97.606(c) SO_2 emissions requirements. For TR SO_2 Group 1 emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source shall hold, in the source's compliance account, TR SO_2 Group 1 allowances available for deduction for such control period under

§97.624(a) in an amount not less than the tons of total SO_2 emissions for such control period from all TR SO_2 Group 1 units at the source.

Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a TR SO_2 Group 1 allowance transfer must be submitted for recordation in a TR SO_2 Group 1 source's compliance account in order to be available for use in complying with the source's TR SO_2 Group 1 emissions limitation for such control period in accordance with §§97.606 and 97.624.

Compliance Demonstration

The Permittee shall comply with the monitoring requirements found in §97.606, §97.630, §97.631, §97.632, and §97.633, the recordkeeping requirements found in §97.606, §97.630, and §97.634, and the reporting requirements; and the reporting requirements found in §97.606, §97.630, §97.633 and §97.634.

D. Control of Nitrogen Oxides

(1) NO_X RACT Requirements

COMAR 26.11.09.08B(5) - Operator Training.

(a) For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.

(b) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department."

COMAR 26.11.09.08C. - Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 250 Million Btu Per Hour or Greater.

"(1) A person who owns or operates fuel-burning equipment with a rated heat input capacity of 250 Million Btu per hour or greater shall equip each installation with combustion modifications or other technologies to meet the NO_X emission rates in §C(2) of this regulation.

(2) The maximum NO_X emission rates as pounds of NO_X per Million Btu per hour are:

(a) 0.45 for tangentially coal fired units located at an electric generating facility (excluding high heat release units);

(b) 0.50 for wall coal fired units located at an electric generating facility (excluding high heat release units);

(c) 0.30 for oil fired or gas/oil fired units located at an electric generating facility;

(d) 0.70 for coal fired cyclone fuel burning equipment located at an electric generating facility from May 1 through September 30 of each year and 1.5 during the period October 1 through April 30 of each year;

(**e) 0.70 for a tangentially coal fired high heat release unit located at an electric generating facility**;

(f) 0.80 for a wall coal fired high heat release unit located at an electric generating facility;
(g) 0.6 for coal fired cell burners at an electric generating facility; and
(h) 0.70 for fuel burning equipment stacks at a non-electric generating facility during the period May 1 through September 30 of each year and 0.99 during the period October 1 through April 30 of each year.
(3) A person who owns or operates fuel burning equipment with a rated heat input capacity of 250 Million Btu per hour or greater shall install, operate, calibrate, and maintain a certified NO_X CEM or an alternative NO_X monitoring method approved by the Department and the EPA on each installation.
COMAR 26.11.09.08B(2)(d) - Demonstration of Compliance. "Except as otherwise established by the Department and approved by the EPA, for a person who establishes compliance with the NO_X emissions standards in this regulation using a CEM, compliance shall be determined as 30-day rolling averages."

Compliance Demonstration

NO_X RACT Requirements

The Permittee shall operate, calibrate, and maintain a certified NO_X CEM or an alternative NO_X monitoring method approved by the Department and the EPA on each installation. [**Reference: COMAR 26.11.09.08C(3)]**
The Permittee shall certify CEMs in accordance with 40 CFR Part 75, Appendix A. **[Reference: COMAR 26.11.09.08B(2)(b)]**
The Permittee shall perform quality control/quality assurance procedures on the continuous emission monitoring system as established in 40 CFR Part 75, Appendix B. **[Reference: COMAR 26.11.01.11C]**
The Permittee shall maintain records necessary for the quarterly emission reports. **[Reference: COMAR 26.11.03.06C]**
The Permittee shall submit quarterly emission reports of CEM data to the Department on or before the thirtieth day of the month following the end of each calendar quarter. The emissions report shall contain the information required by COMAR 26.11.01.11E(2). [**Reference: COMAR 26.11.09.08K(1) and COMAR 26.11.03.06C]**

(2) Emission Limitation for Power Plants requirements:
COMAR 26.11.27.03B. NO_X Emission Limitations.
(1) Except as provided in §E of this regulation, annual NO_X emissions from each affected electric generating unit may not exceed the number of tons in §B(2) of this regulation.
(2) Annual Tonnage Limitations.

Affected Unit	Annual NO_X Tonnage Limitations Beginning
	January 1, 2012
Morgantown Unit 1	2,094 tons
Morgantown Unit 2	2,079 tons
System-wide	8,298 tons

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

(6) Ozone Season Tonnage Limitations.

Affected Unit	Ozone Season NO_X Tonnage Limitations Beginning
	May 1, 2012
Morgantown Unit 1	868 tons
Morgantown Unit 2	864 tons
System-wide	3,567 tons

(7) Electric System Reliability During Ozone Seasons.
(a) An exceedance of the NO_X limitations in §B(4) or (6) of this regulation which occurs because PJM Interconnection, LLC or a successor independent system operator, acts to invoke "Maximum Emergency Generation", "Load Reduction", "Voltage Reduction", "Curtailment of Non-essential Building Load", or "Manual Load Dump" procedures in accordance with the current PJM Manual, or a PJM alert preceding such action as to a generating unit that has temporarily shut down in order to avoid potential interruption in electric service and maintain electric system reliability is not a violation of this chapter provided that:
(i) Within 36 hours following the action, the owner or operator of the affected electric generating unit or units notifies the Manager of the Air Quality Compliance Program of the action taken by PJM Interconnection and provides the Department with documentation of the action which is satisfactory to the Department;
(ii) Within 48 hours after completion of the action, the owner or operator of the affected unit or units provides the Department with the estimated NO_X emissions in excess of the emission limitation; and
(iii) *See State-only enforceable section of the permit for additional requirement.*
(b) The owner or operator of an electric generating unit or system, as applicable, shall send written notice to the Manager of the Air Quality Compliance Program not later than 5 business days following the day when the cumulative ozone season NO_X emissions of an electric generating unit or system, as applicable, are:
(i) Equal to approximately 80 percent of the applicable ozone season emission limitation; and
(ii) Equal to the applicable ozone season emission limitation.

COMAR 26.11.27.03E. System-Wide Compliance Determinations.
(1) Compliance with the emission limitations in §§B and C of this regulation may be achieved by demonstrating that the total number of tons emitted from all electric generating units in a system does not exceed the sum of the tonnage limitations for all electric generating units in that system.
(2) A system-wide compliance determination shall be based only upon emissions from units in Maryland that are subject to the emission limitations in §§B and C of this regulation.

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

Compliance Demonstration

The Permittee shall maintain records sufficient to demonstrate compliance with the requirements of the Healthy Air Act, COMAR 26.11.27. **[Reference: COMAR 26.11.01.05A].**

COMAR 26.11.27.05 - Monitoring and Reporting Requirements.

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

C. Each report shall include:

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

(2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit;

(3) A current compliance plan; and

(4) Any other information requested by the Department.

(3) Potomac River Consent Decree

The Permittee shall comply with the requirements of Potomac River Consent Decree. See **Table IV- 1a**

Note: The Consent Decree establishes a NRG System-Wide Annual NO_X Tonnage Limitation and a System-Wide Ozone Season NO_X Emissions Limitation. Morgantown Units 1 and Unit 2 are included in the NRG System. See the details of the Potomac River Consent Decree in the Fact Sheet for Emission Units F-1 and F-2.

"Beginning May 1, 2007, NRG shall not operate Morgantown Unit 1 unless it has installed and continuously operates, on a year-round basis, Selective Catalytic Reduction technology ("SCR") (or equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBtu NO_X." **[Reference: Potomac River Consent Decree, Condition 53**]

SCR was placed into operation on Unit 1 prior to May 2007.

"Beginning May 1, 2008, NRG shall not operate Morgantown Unit 2 unless it has installed and continuously operates, on a year-round basis, SCR (or an equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than

0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 54**]
SCR was placed into operation on Unit 2 prior to May 2008.

Compliance Demonstration
The Permittee shall comply with the recordkeeping requirements of the Potomac River Consent Decree. See paragraph 17 in Table IV-1a: Potomac River Consent Decree. The Permittee shall comply with the reporting requirements of the Potomac River Consent Decree. See paragraphs 15 and 18 through 23 in Table IV-1a: Potomac River Consent Decree**. [Reference: COMAR 26.11.03.06C]**

(4) Acid Rain Permit
The Permittee shall comply with the requirements of the renewal Phase II Acid Rain Permit issued for this generating station. Note: A renewal Phase II Acid Rain Permit will be issued in conjunction with this Part 70 permit and is attached to the Part 70 permit as Appendix A. The renewal Phase II Acid Rain permit sets an annual average NO_X emissions limitation of 0.45 pounds NO_X per million BTU of heat input for Unit 1 & Unit 2. Excess emissions are tons of NO_X emissions in any calendar year that exceed the amount of NO_X calculated by multiplying 0.45 pounds of NO_X per million BTU of heat input for Unit 1 & Unit 2 times the total heat input during the year. At the end of each calendar year, the Permittee is penalized for any excess emissions.

(5) Cross-State Air Pollution Rule
TR NO_X Annual Trading Program 40 CFR Part 97 Subpart AAAAA
The Permittee shall comply with the provisions and requirements of §97.401 through §97.435

TR NO_X Ozone Season Trading Program 40 CFR Part 97 Subpart BBBBB
The Permittee shall comply with the provisions and requirements of §97.501 through §97.535

Note: **§97.406(c) NO_X emissions requirements**. For TR NO_X Annual emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall hold, in the source's compliance account, TR NO_X Annual allowances available for deduction for such control period under §97.424(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Annual units at the source.

Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter

(if March 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Annual allowance transfer must be submitted for recordation in a TR NO_X Annual source's compliance account in order to be available for use in complying with the source's TR NO_X Annual emissions limitation for such control period in accordance with §§97.406 and 97.424.

§97.506(c) NO_X emissions requirements. For TR NO_X Ozone Season emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall hold, in the source's compliance account, TR NO_X Ozone Season allowances available for deduction for such control period under §97.524(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Ozone Season units at the source.

Allowance transfer deadline means, for a control period in a given year, midnight of December 1 (if it is a business day), or midnight of the first business day thereafter (if December 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Ozone Season allowance transfer must be submitted for recordation in a TR NO_X Ozone Season source's compliance account in order to be available for use in complying with the source's TR NO_X Ozone Season emissions limitation for such control period in accordance with §§97.506 and 97.524.

Compliance Demonstration

The Permittee shall comply with the monitoring, record keeping and reporting requirements found in §97.406, §97.430, §97.431, §97.432, §97.433 and §97.434 for the NO_X Annual Trading Program and §97.506, §97.530, §97.531, §97.532, §97.533 and §97.534 for the NO_X Ozone Season Trading Program.

Emission Units: F1 and F2: Boilers Cont'd

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Potomac River Consent Decree

System-wide Annual Tonnage Limitations for NO_X

1. Except as provided in Paragraph 185,188, or 189 as applicable, NRG shall comply with the following System-Wide Annual Tonnage Limitations for NO_X, which apply to all Units collectively within the NRG System, during each year specified in Table A below:

[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 57.]

Note: The NRG system consists of Chalk Point Generating Station Unit 1 and Unit 2; Dickerson Generating Station Unit 1, Unit 2, and Unit 3; **Morgantown Generating Station Unit 1 and Unit 2;** and Potomac River Generating Station Unit 1, Unit 2, Unit 3, Unit 4, and Unit 5. Paragraph 185, 188, and 189 refer to revise requirements that are triggered if NRG severs the Morgantown Station, the Dickerson Station, or both the Morgantown and Dickerson Stations from the NRG System.

Table A

Applicable Year	**System-Wide Annual Tonnage Limitations for NO_x**
2010 and each year after	16,000 tons

2. Except as provided in Paragraph 185,188, or 189 as applicable, beginning May 1, 2004, for each Ozone Season specified, the sum of the tons by all Units within the NRG System shall not exceed the following System-Wide Ozone Season Tonnage Limitations for NO_X in Table B below:
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 58.]

Note: The NRG system consists of Chalk Point Generating Station Unit 1 and Unit 2; Dickerson Generating Station Unit 1, Unit 2, and Unit 3**; Morgantown Generating Station Unit 1 and Unit 2**; and Potomac River Generating Station Unit 1, Unit 2, Unit 3, Unit 4, and Unit 5. Paragraph 185, 188, and 189 refer to revise requirements that are triggered if NRG severs the Morgantown Station, the Dickerson Station, or both the Morgantown and Dickerson Stations from the NRG System.

Table B

Applicable Ozone Season	**System-Wide Ozone Season Tonnage Limitations for NO_x**
2010 and each ozone season thereafter	5,200 tons

3. Except as provided in Paragraph 185,188, or 189 as applicable, beginning May 1, 2008, and continuing for each and every Ozone Season thereafter, the NRG System, shall not exceed a System-Wide Ozone Season Emissions Rate of 0.150 lb/mm BTU NO_X.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 59.]

4. If NRG exceeds the limitations specified in Section IV, Subsection C (System-Wide Annual Tonnage Limitations for NO_X) or D (System-Wide Ozone Season Emissions Limitations), NRG may not claim compliance with this Decree by using, tendering, or otherwise applying NO_X Allowances that were obtained prior to lodging of this Decree, or that are subsequently purchased or otherwise

obtained, and stipulated penalties apply as set forth in Section XI (Stipulated Penalties). Except as provided in Paragraphs 61 and 66, NO_X Allowances allocated to, or purchased by, or on behalf of, the NRG System may not be used by NRG to meet its own federal and/or State Clean Air Act regulatory requirements to the extent otherwise allowed by law.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 60.]

5. Solely for the purpose of compliance with any present or future NO_X trading program set forth in the Maryland State Implementation Plan including, the Maryland NO_X Reduction and Trading Program, COMAR 26.11.29-26.11.30, beginning with:
(a) the 2004 Ozone Season and during each Ozone Season thereafter, and
(b) the year that an annual NO_X allowance trading program becomes effective in Maryland, and during each year thereafter,
NRG must first use: (1) any and all allowances previously held by NRG; and (2) allowances allocated to individual plants within the NRG System. Only to the extent that such allowances are insufficient to establish compliance with the requirements of those SIPs, NRG may use NO_X Allowances purchased or otherwise obtained from sources outside the NRG System.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 61.]

6. Except as provided in this Consent Decree, NRG shall not sell or trade any NO_X Allowances allocated to the NRG System that would otherwise be available for sale or trade as a result of NRG's compliance with any of the NO_X emission limitations specifies in this Consent Decree.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 62.]

7. Provided that NRG is in compliance with all of the NO_X emission limitations specified in the Consent Decree, including both unit-specific and system-wide emissions rates and plant-wide and system-wide tonnage limitations, nothing in this Consent Decree shall preclude NRG from selling or transferring NO_X Allowances allocated to the NRG System that become available for sale or trade when, and only insofar as, both: (a) the total Ozone Season NO_x emissions from all Units within the NRG System are below System-Wide Ozone Season Tonnage Limitations for the applicable year, as specified in Paragraph 58; and (b) the annual NO_x emissions from all Units within the NRG System are below the System-Wide Annual Tonnage Limitations, as specified in Paragraph 57.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 63.]

8. In no event shall the emission reductions required by this Decree be considered as credible contemporaneous emission decreases for the purpose of

obtaining a netting credit under the Clean Air Act's Nonattainment NSR and PSD programs.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 71]

9. In order to sell or transfer NO_x Allowances pursuant to Paragraph 63, NRG must also timely report the generation of such NO_x Allowances in accordance with Section IX (Periodic Reporting) of this Consent Decree.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 64.]

10. For purpose of this Subsection, the "surrender of allowances" means permanently surrendering NO_x Allowances from the accounts administered by Plaintiffs for all Units in the NRG System, so that such allowances can never be used to meet any compliance requirement of any person under the Clean Air Act, the Maryland and Virginia SIPs, or this Consent Decree.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 65.]
11. For each calendar year beginning with calendar year 2004, NRG shall surrender to EPA, or transfer to a non-profit third party selected by NRG for surrender: (1) the number of Ozone Season NO_X allowances equal to the amount by which the Ozone Season NO_X allowances allocated to all NRG System Units for a particular ozone season are greater than the System-Wide Ozone Season Tonnage Limitations for NO_X established in Paragraph 58 of the Consent Decree for the same year; and (2) the number of "annual" (non-ozone season) NO_X allowances equal to the amount by which the "annual" NO_X allowances allocated to all NRG System Units for a particular non-ozone season are greater than the difference between the System-Wide Annual Tonnage Limitations for NO_X established in Paragraph 57 and the System Wide Ozone Season Tonnage Limitations for NO_X established in Paragraph 58 for that same year.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 66]

12. If any NO_X Allowances are transferred directly to a non-profit third party, NRG shall include a description of such transfer in the next report submitted to Plaintiffs. Such report shall: (a) provide the identity of the non-profit third party recipient(s) of the NO_X Allowances and a listing of the serial numbers of the transferred NO_X Allowances; and (b) include a certification by the third-party recipient(s), stating that the recipient(s) will not sell, trade, or otherwise exchange any of the NO_X Allowances and will not use any of the Allowances to meet any obligation imposed by any environmental law. No later than the third periodic report due after the transfer of any NO_X Allowances, NRG shall include a statement that the third-party recipient(s) tendered the NO_X Allowances for permanent surrender to Plaintiffs in accordance with the provisions of Paragraph 68 within one (1) year after NRG transferred the NO_X Allowances to them. NRG shall not have complied with the NO_X Allowance surrender requirements of this

Paragraph until all third-party recipient(s) shall have actually surrendered the transferred NO_X Allowances to Plaintiffs.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 67]

13. For all NO_X Allowances surrendered to Plaintiffs, NRG or the non-profit third-party recipient(s) (as the case may be) shall first submit a NO_X Allowance transfer request form to EPA directing the transfer of such NO_X Allowances to the Plaintiffs' Enforcement Surrender Account or to any other Plaintiffs account that Plaintiffs may direct in writing. As part of submitting these transfer requests, NRG or the third-party recipient(s) shall irrevocably authorize the transfer of these NO_X Allowances and identify- by name of account and any applicable serial or other identification numbers or station names- the source and location of the NO_X Allowances being surrendered.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 68]

Severance of the Morgantown and/or Dickerson Plants from the NRG System

14. NRG shall comply with paragraphs 185,186,187,188,189,190, 191,192,193,194,195 of Section XIX. Severing the Morgantown Plant: Revised System-wide NO_X Emission Limitations, Section XX. Severing the Dickerson Plant: Revised System-wide NO_X Emission Limitations, XXI Severing the Morgantown and Dickerson Plants: Revised System-wide NO_X Emission Limitations, and Section XXII Sales or Transfers of Ownership Interests.
[Reference: NRG Potomac River Consent Decree, Sections XIX, XX, XXI, and XXII]
15. NRG shall comply with the reporting requires of paragraph 138 and 139 of Section XVII Severance of the Morgantown and/or Dickerson Plants from the NRG System.
[Reference: NRG Potomac River Consent Decree, Section XVII, paragraphs 138 and 139]

Monitoring, and Record Keeping and Reporting Requirements

16. In determining Emission Rates for NO_X, NRG shall use CEMS in accordance with those reference methods specified in 40 CFR Part 75.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 69]

17. NRG shall retain, and instruct its contractors and agents to preserve, all non-identical copies of all records and document (including records and documents in electronic form) now in its or its contractors' or agents' possession or control, and that directly relate to NRG's performance of its obligations under this Consent Decree until December 31, 2015. This record retention requirement shall apply regardless of any corporate document retention policy to the contrary.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 131]

18. NRG shall submit a report to Plaintiffs containing a summary of the data recorded by each NO_X CEMS in the NRG System, expressed in lb/mmBTU, on a 30-day rolling average basis, in electronic format, within 30 days after the end of each calendar quarter and within 30 days after the end of each month of the Ozone Season, and shall make all data recorded available to the Plaintiffs upon request.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 70]

Completed (19, 20, & 21). **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 88, 89 & 90]**

22. In addition to the progress reports required pursuant to this Section, NRG shall provide a written report to Plaintiffs of any violation of the requirements of this Consent Decree, including exceedances of any Unit-specific 30-Day Rolling Average Emission Rates, Unit-specific 30-Day Rolling Average Removal Efficiencies, any Unit-specific 12-Month Rolling Average Removal Efficiencies, System-Wide Annual Tonnage Limitations, System-Wide Ozone Season Tonnage Limitations, Potomac River Annual or Ozone Season Tonnage Limitations, or System-Wide Ozone Season Emission Rate, within ten (10) business days of when NRG knew or should have known of any such violation. In this report, NRG shall explain the cause or causes of the violation and all measures taken or to be taken by NRG to prevent such violations in the future.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 91]

23. Each NRG report shall be signed by NRG's Director, Environmental Safety and Health, NRG Mid-Atlantic, LLC, or in his or her absence, the President of NRG Mid-Atlantic, LLC, or higher ranking official, and shall contain the following certification

> This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or the direction and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate, and complete. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States.

[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 92]

24. If any Allowances are surrendered to any non-profit third party, in accordance with this Consent Decree, the third party's certification shall be signed by a managing officer of the third party and shall contain the following language:

> I certify under penalty of law that [name of third party] will not sell, trade, or otherwise exchange any of the [NO_X, SO_2, or Mercury] Allowances and will

not use any of the Allowances to meet any obligation imposed by an environmental law. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 93]

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

Enhanced Monitoring Plan for Morgantown Generating Station F1 (Unit 1) By-pass Stack only

Morgantown Unit 1 PM Emission Control

Morgantown Unit 1 is a base-load coal-fired steam-generating unit nominally rated at 640 MW. PM emission controls consist of cold side electrostatic precipitators (ESPs). Exhaust gases from the ESP exits through a single 700-ft-high stack.

Rationale for Selection of Performance Indicators

In an ESP, capture of particulate matter is obtained by having the flue gas flow pass through an electric field where the particulate matter is imparted with an electric charge. The electric fields are established by applying a direct current voltage across a pair of electrodes, a discharge electrode and a collection electrode. Ash particles become negatively charged and migrate towards the positively charged collection electrodes. Particulate matter is removed from the flue gas stream by magnetic attraction and retention on the collection electrode. Removal of the particulate matter falls by gravity into hoppers located below the ESP and is subsequently removed by the ash system and transported for off-site disposal.

The use of opacity data as an ESP performance indicator is a commonly used proxy for ESP performance. Generally, as opacity increases there is thought to be a causal effect of increased particulate emissions from the ESP. Although there may be other reasons for increasing opacity values, such as high flue gas velocities, re-entrainment problems, and particle size issues, there is typically a linear relationship between opacity, outlet loading, and ESP efficiency at normal operating conditions. During startup, shutdown or upset conditions, this relationship may not correlate as well. Despite this limitation, use of opacity is the preferred parameter as an Enhanced Monitoring plan performance indicator. Opacity will be used as the primary ESP performance indicator.

Because the relationship between PM and opacity is not robust overall operating conditions, secondary ESP performance indicator will also be used. During the development of this Enhanced Monitoring plan, particulate matter (PM) testing

was conducted on the unit at varying ESP power levels in an effort to determine a reliable ESP performance indictor. The total secondary ESP power level was found to have a high correlation with PM emissions and was selected as the second Enhanced Monitoring plan performance indicator. When the primary indicator (block 1-hr average opacity) is at or above 17%, secondary power levels of the total secondary power of the ESP will then be monitored.

In general, secondary ESP power can be a useful indicator of ESP performance. Typically, high secondary power to the ESP results in good ESP performance. In a properly operating ESP, secondary voltage tends to decrease from the inlet fields to the outlet fields, while the secondary current tends to increase. When the secondary voltage drops, due to grounded electrodes for example, less particulate is charged and collected. In addition, if the collection plates are not cleaned or rapped appropriately, the secondary current drops while the secondary voltage can remain high. Since the secondary power is the sum of the products of secondary voltage and current for each field, monitoring the use of secondary power levels will provide an additional measure of ESP performance.

Monitoring Approach

Two performance indicators will be used: ESP opacity as measured by the continuous opacity monitor (COM) in the exhaust will be used as the primary ESP performance indicator. Block 1-hour average opacity of 17% was determined to be the appropriate indictor range. Opacity values above the indictor range for this period will trigger the use of a second performance indicator – secondary power of the ESP. The indictor range for the total secondary power of the ESP is 417 KW in a block 1-hour average basis. Block hourly power levels below 417 kW will be considered an excursion of the AM plan indicator. These events will be documented and reported to MDE on a quarterly basis.

The basis of the opacity, secondary power and PM emissions relationship used in developing the Enhanced Monitoring plan were determined by the stack tests performed on Unit 1 in April 7 and 8, 2008.

Enhanced Monitoring Plan for Morgantown Generating Station F2 (Unit 2) By-pass Stack only

Morgantown Unit 2 PM Emission Control

Morgantown Unit 2 is a base-load coal-fired steam-generating unit nominally rated at 640 MW. For control of particulate emissions, the unit is equipped with the original cold sides ESPs consisting of two (2) parallel boxes (one for each ID fan train, labeled “A” side and “B” side). The ESP boxes are identical and each box is four (4) chambers wide and four (4) electrical fields deep.

Rationale for Selection of Performance Indicators

In an ESP, capture of particulate matter is achieved by having the flue gas flow pass through an electric field where the particulate matter is imparted with an electric charge. The electric fields are established by applying a direct current voltage across a pair of electrodes, a discharge electrode and a collection electrode. Ash particle become negatively charge and migrate towards the positively charged collection electrodes. Particulate matter is removed from the flue gas stream by magnetic attraction and retention on the collection electrode. Removal of the particulate from the collection plates is achieved by rapping of the plates wherein the particulate matter falls by gravity into hoppers located below the ESP, and is subsequently removed by the ash removal by the ash system and transported for off-site disposal.

The use of opacity data as an ESP performance indicator is a commonly used proxy for ESP performance. Generally, as opacity increases there is thought to be a casual effect of increased particulate emissions from the ESP. Although there may be other reasons for increasing opacity values, such as high flue gas velocities, re-entrainment problems, and particle size issues, there is typically a linear relationship between opacity, outlet loading, and ESP efficiency at normal operating conditions. During startup, shutdown or upset conditions, this relationship may not correlate as well. Despite this limitation, use of opacity is a preferred parameter as an Enhanced Monitoring plan performance indicator. Opacity will be used as the primary ESP performance indicator.

Because the relationship between PM and opacity is not a robust overall operating condition, a secondary ESP performance indicator will be used. During the development of this Enhanced Monitoring Plan, particulate matter (PM) testing was conducted on the unit at varying ESP power levels in an effort to determine a reliable second ESP performance indicator. The secondary power levels of the third ESP field were found to have a high correlation with PM emissions and were selected as the second Enhanced Monitoring Plan performance indicator. When the primary indicator (block 1-hour average opacity) is at or above eighteen (18) percent, secondary power levels of the third field of the ESP will then be monitored.

In general, secondary ESP power can be a useful indicator of ESP performance. Typically, high secondary power to the ESP results in good ESP performance. In a properly operating ESP, secondary voltage tends to decrease from the inlet fields to the outlet fields, while the secondary current tends to increase. When the secondary voltage drops, due to grounded electrodes for example, less particulate is charged and collected. In addition, if the collection plates are not cleaned or rapped appropriately, the secondary current drops while the secondary voltage can remain high. Since the secondary power is the sum of the products of secondary voltage and current for each field, monitoring the use

of secondary power levels will provide an additional measure of ESP performance.

Rationale for Selection of Indicator Ranges

Annual and Enhanced Monitoring PM testing was performed on Unit 2 during July 2007. The results were used as the basis for determining the performance indicator range values.

A high linear regression correlation (R^2) of 0.9404 was calculated between the actual opacity and PM emission data. At the 20 percent opacity limit, the PM emissions are predicted to be about 0.095 lb/MMBtu which is slightly under the 0.100 lb/MMBtu presumptive limit proposed in the March 2008 Consent Decree.

An indicator range value for opacity is 18 percent on a block 1-hour average was selected. When the block 1-hour average opacity value is 18 percent or greater, the predicted PM emission level is approximately 0.085 lb/MMBtu, which provides approximately a 15 percent margin below the presumptive PM limit of 0.100 lb/MMBtu. An indicator range set 10 percent below the opacity limit of 20% is deemed to be sufficient margin to allow for corrective measures to be taken before the opacity limit is exceeded. If the opacity indicator is exceeded, the operators will turn to the second Enhanced Monitoring plan indicator to diagnose and troubleshoot ESP performance.

Monitoring Approach

When the opacity levels of greater than 18 percent on a block 1-hour average are observed, secondary power levels for the third field shall be monitored. If the ESP third field secondary power levels are above the 92-kW indicator value, no further action will be required. If secondary power levels below this level on a block hourly average basis, a response from operating and maintenance personnel will be triggered, at which time appropriate inspection and maintenance of the ESP and its auxiliary components (ash hopper levels, rapping, TR indicators, etc) will be performed. Operating periods where the block 1-hour average ESP third field secondary power level is below 92 kW will be considered an excursion of the Enhanced Monitoring Plan indicator. Information on all Enhanced Monitoring plan excursions including, the date, time, and duration of the excursion, along with corrective action taken, block 1-hour average opacity data, and block 1-hour average ESP third field secondary power data, will be reported to MDE in the quarterly reports.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

Emissions Unit Number(s): FGD System for F1 and F2

A wet flue gas desulfurization (FGD) system is installed on both Units 1 and 2. The FGD system controls acid gases (SO_2 & HCl) and Hg. The FGD system uses limestone slurry with in-situ forced oxidation, producing gypsum by-product. The FGD system consists of the following sub-systems: limestone unloading and storage facilities; limestone slurry preparation and feed; SO_2 absorption tower; gypsum dewatering and loading facilities and three (3) emergency diesel engines (two quench pump and one fire pump). **[CPCN: 9085]**

Compliance Status
In December 2009, NRG commenced operation of the new FGD scrubber (CPCN # 9085) on the two coal fired boilers to comply with Maryland's HAA.
On April 26-30, 2010, the NRG conducted NSPS Subpart OOO initial performance test visible emission observations on the Limestone Preparation & Gypsum Handling Systems at their Morgantown Generating Station as required by their CPCN No. 9085. The performance test report was received June 2, 2010. The test results show that all of the 33 emission points monitored (observed) are in compliance with the opacity standards found in 40 CFR 60 Subpart OOO and the Facility's CPCN No. 9085.

[Reference: CPCN 9085: II. Applicable Air Quality Regulations]
10. The Morgantown facility is subject to all applicable, federally enforceable State air quality requirements including, but not limited to, the following regulations:
a) **COMAR 26.11.01.10**–Requires NRG to install Continuous Opacity Monitoring (COM) systems to monitor opacity and Continuous Emissions Monitoring (CEM) systems (COMAR 26.11.01.11) to monitor SO_2, NO_X and either O_2 or CO_2 from each boiler, and to meet applicable CEM installation, certification, operating, monitoring, testing, and, malfunction requirements in 40 CFR Part 60, 40 CFR Part 75, and 40 CFR Part 51, Appendix 51, Appendix P, §3.3-3.8 or §3.9 as incorporated by reference.
c) **COMAR 26.11.06.02C(1)-**Prohibits NRG from causing or permitting the discharge of emissions from any installation or building (i.e., confined, non-fuel-burning equipment sources) other than water in an uncombined form, which are greater than 20 percent opacity.
d) **COMAR 26.11.06.03B(1)-**Prohibits NRG from discharging into the outdoor atmosphere from any confined source (i.e., the limestone, gypsum and other material storage silos) particulate matter in excess of 0.05 grains per dry standard cubic feet (gr/dscf)(115 mg/dscm).
e) **COMAR 26.11.06.03C(1)-**Prohibits NRG from causing or permitting emissions from an unconfined (fugitive) source without taking reasonable precautions to prevent particulate matter from becoming airborne,
f) **COMAR 26.11.06.03D**-Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking

reasonable precautions to prevent particulate matter from becoming airborne. For the unloading, loading and transfer of the materials included at the Morgantown APC Project (limestone, gypsum, and sorbent to control sulfuric acid mist emissions), these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer:

i) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land.

ii) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts.

iii) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations.

iv) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution. Alternate means may be employed to achieve the same results as would covering the vehicles.

v) The paving of roadways and their maintenance in clean condition.

vi) The prompt removal from paved streets of earth or other material which has been transported there by trucks or earth moving equipment or erosion by water.

g) **COMAR 26.11.06.12**-Prohibits NRG from constructing, modifying or operating or causing to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source as defined in COMAR 26.11.01.01C, which results in violation of provisions of 40 CFR Part 60.

h) **COMAR 26.11.09.03**-When determining compliance with applicable particulate matter emission standards from boiler stacks (concentration requirement expressed as grains per standard cubic foot or milligrams per cubic meter of dry exhaust gas), NRG shall correct to 50 percent excess air. In addition, when determining compliance with a mass-based particulate matter emission limit expressed as pounds per million Btu (lb/MMBtu), NRG shall use the procedures for determining particulate matter emission rates in 40 CFR Part 60 Appendix A, Method 19.

i) **COMAR 26.11.09.05A(1)-**Prohibits NRG from discharging emissions from fuel burning equipment, other than water in an uncombined form, which is greater than 20 percent opacity. Exceptions: limitations do not apply during times of load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment which are not greater than 40 percent opacity and do not occur for more than six consecutive minutes in any 60 minute period.

j) **COMAR 26.11.09.05E(2) and E(3)**-Prohibits the discharge of emissions from the quench pump engines, when operating at idle, greater than 10 percent opacity, and when in operating mode, greater than 40 percent opacity. Exceptions: (i) limitations when operating at idle do not apply for a period of two consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system; (ii) limitations when operating at idle do not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods: engines that are idled continuously when not

in service: 30 minutes, and all other engines: 15 minutes; (iii) limitations when in idle and operating modes do not apply while maintenance, repair, or testing is being performed by qualified mechanics.

k) **COMAR 26.11.009.06A(1)**-Prohibits NRG from causing or permitting particulate matter emissions from Morgantown Units 1 and 2 in excess of 0.14 lb/MMBtu. (Figure 1 of COMAR 26.11.09.06A). [*Superseded by March 6, 2008 Consent Decree PM Emission limit 0.100 mmBtu/hr*]

l) **COMAR 26.11.09.07A(1)(a)**-Prohibits NRG from burning coal that would result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu actual heat input.

m) **COMAR 26.11.09.07A(1)(c)-**Prohibits NRG from burning distillate fuel oil in the quench pumps with a sulfur content greater than 0.3 percent.

n) **COMAR 26.11.27**-Requires NRG to comply with the applicable emissions limitations for NO_X, SO_2 and mercury as well as the monitoring and record keeping requirements contained in COMAR 26.11.27.

[Reference: CPCN 9085: III. New Source Performance Standard (NSPS) Requirements]

12. The equipment at Morgantown identified in [CPCN 9085] Table 1a, Table 1b and Table 1c are subject to NSPS 40 CFR Part 60, Subpart OOO-Standards of Performance for Non-metallic Mineral Processing Plants (40 CFR §60.670) and the associated notification and testing requirements of 40 CFR §60.7, §60.8 and §60.11 whose requirements include, but are not limited to the following:

a) NRG shall not cause to be discharged into the atmosphere gases from any transfer point along the belt conveyor systems, or any other stack, particulate matter in concentrations greater than 0.022 gr/dscf or opacity that is greater than seven percent.

b) NRG shall not cause to be discharged into the atmosphere from any transfer point along the belt conveyor system or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity. If the transfer point is totally enclosed in a building or enclosure, then there are no fugitive emissions allowed from the building unless they are directed through a vent, which is limited by Condition 12(a).

c) NRG shall not cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity

d) NRG shall not cause to be discharged into the atmosphere from any baghouse that controls emissions from only an individual enclosed storage bin, stack emissions which exhibit greater than seven percent opacity.

13. Each of the three diesel engine-driven (two quench pumps and one fire pump) are subject to New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR §60.4205) and the associated fuel, monitoring, compliance, testing, notification, reporting and record keeping

requirements (40 CFR §60.4200 et seq.), and related applicable provisions of 40 CFR §60.7 and §60.8.

[Reference: CPCN 9085: IV. Operational Restrictions and Limitations]
14. NRG shall:
a) Install, maintain and operate the new limestone, gypsum, sulfuric acid mist (SAM) control sorbent, and hydrated lime unloading, storage, transfer and distribution equipment and systems with associated particulate matter control methods listed in [CPCN 9085] Table 1a-c and Table 2 in accordance with original design criteria, vendor recommendations and best management practices, and in such a manner as to ensure full and continuous compliance with all applicable regulations.
b) Update Morgantown's Best Management Practices (BMP) Plan, as required by the facility's Part 70 Operating Permit (Permit No. 24-017-0014), to include the new limestone, gypsum, SAM control sorbent, and hydrated lime transfer storage and distribution equipment. The Plan shall document what reasonable precautions will be used to prevent particulate matter from this equipment from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. *Completed*
c) At least 60 days prior to replacing, elimination or in any manner changing any of the particulate control systems listed in [CPCN 9085] Table 1a-c and Table 2, NRG shall submit a request to ARMA to amend the facility's BMP Plan. The request shall specify the proposed change(s) in emissions control systems; shall demonstrate that the change(s) will not result in any increases in any pollutants; and update [CPCN 9085] Table 1a-c and Table 2 of these conditions. NRG shall be authorized to make the changes proposed in the written request unless ARMA denies the request within 30 days of the receipt of the request.

Compliance Demonstration

[Reference: CPCN 9085: V. Testing]

17. In accordance with COMAR 26.11.01.04A, NRG may be required by ARMA to conduct additional stack tests to determine compliance with COMAR Title 26, Subtitle 11. This testing will be done at a reasonable time.

[Reference: CPCN 9085: VI. Monitoring]

18. NRG shall operate CEM systems for SO_2, NO_X and CO_2 or O_2, under 40 CFR part 75 and COM systems for Morgantown Unit 1 and 2.

The Permittee shall calculate the Unit's SAM emissions based on the empirical SAM formation relationship found in Estimating Total Sulfuric Acid Emissions from Stationary Power Plants: Revision 3 (Southern Company 2005), the SAM emission stack tests results required by the CPCN 9085 Condition 87 (40 CFR 60, Appendix A, Method 8), the actual unit heat input and the actual fuel sulfur content.

The Permittee use the following formula using the SAM stack test results adjusted by the average monthly fuel sulfur content and monthly heat input to calculate the monthly and 12 month rolling SAM emissions:

Monthly SAM Emissions (tons/month) = SAM Stack test Rate (lbs/mmBtu) x Coal Sulfur Adjustment Factor (average Monthly Coal Sulfur Content/Stack Test Coal Sulfur Content)/2000 lbs/ton

[Reference: Letter dated Dec 10, 2009 to MDE from Mirant Mid Atlantic LLC: Re: CPCN Case 9085, Condition 86b. – Method to Determine Sulfur Acid Mist Emissions from Morgantown Units 1 and 2]

See also State Only requirements of COMAR 26.11.09.05C.

[Reference: CPCN 9085: VII. Recordkeeping and Reporting]

24. All records and logs required by this CPCN shall be maintained at the facility for at least five years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of ARMA.

[Reference: CPCN 9085: VII. Recordkeeping and Reporting]

20. NRG shall submit to ARMA and US EPA written reports of the results of all performance test conducted to demonstrate compliance with the standards set forth in applicable NSPS within 60 days of completion of the tests. ***(Completed)***

21. Final results of the performance tests required by this CPCN must be submitted to ARMA within 60 days after completion of the test. Analytical data shall be submitted to ARMA directly from the emission testing company. ***(Completed)***

25. All air quality notification and reports required by this CPCN shall be submitted to:

Administrator, Compliance Program
Air and Radiation Management Administration
1800 Washington Boulevard
Baltimore, Maryland 21230

26. All notification and reports required by 40 CFR 60 Subpart OOO and Subpart IIII, unless specified otherwise, shall be submitted to:

Regional Administrator, US EPA
Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Emissions Unit Number(s): F1 and F2 Boilers Cont'd
F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

MACT Subpart UUUUU

Please Note: On June 29, 2015, the Supreme Court issued an opinion in *Michigan et al v. Environmental Protection Agency*. The Supreme Court's decision remands the MATS rule to EPA and returns the matter to the U.S. Court of Appeals for the D.C. Circuit for further proceedings. As of the issuance of this permit, the MATS rule is in effect. The Supreme Court decision in *Michigan* requires the EPA to undertake additional proceedings for the limited purpose of evaluating costs for its "appropriate and necessary" finding which preceded the MATS rule.
Until and unless the MATS rule is stayed and/or vacated by the D.C. Circuit, MATS related conditions in the Title V permit apply. If the MATS rule is stayed and/or vacated or partially stayed and/or vacated then the affected conditions in the Title V permit will be revised/removed accordingly.

Compliance Status
NRG submitted to the Department its initial MACT notification (40 CFR 63 Subpart UUUUU – Coal & Oil-fired Electric Utility Steam Generating Units) for their (3) electrical generating stations **(Morgantown**, Dickerson and Chalk Point) located in Maryland. The report was received by the Department on August 20, 2012.

Please Note: Letter dated March 25, 2015 from NRG stated the following: "With the implementation of EPA's Mercury and Air Toxics Standards (MATS) rule in April, the option of operating units on the bypass stacks will be all but eliminated due its strict emission limits…." The Permittee will restrict the use of the bypass stack to situations where personnel safety or equipment preservation is involved. Under this limited operating scenario, it will not be possible to certify the CEMs

on the bypass stack. The CEMS on the bypass stack is currently certified and will remain in operation until the certification expires. The bypass stack at Morgantown will not be monitored by certified CEMs or tested on a quarterly basis after the CEMS certification expires.

Control of HAPs Emissions

40 CFR Part 63, Subpart UUUUU—National Emission Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units.

§63.9980 - What is the purpose of this subpart?

This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from coal- and oil-fired electric utility steam generating units (EGUs) as defined in §63.10042 of this subpart. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

Electric utility steam generating unit (EGU) means a fossil fuel-fired combustion unit of more than 25 megawatts electric (MWe) that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 MWe output to any utility power distribution system for sale is considered an electric utility steam generating unit.

§63.9984 - When do I have to comply with this subpart?

"(b) If you have an **existing** EGU, you must comply with this subpart no later than **April 16, 2015**."

"(c) You must meet the notification requirements in §63.10030 according to the schedule in §63.10030 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart."

"(f) You must demonstrate that compliance has been achieved, by conducting the required performance tests and other activities, no later than 180 days after the applicable date in paragraph (a), (b), (c), (d), or (e) of this section."

§63.9991 - What emission limitations, work practice standards, and operating limits must I meet?

"(a) You must meet the requirements in paragraphs (a)(1) and (2) of this section. You must meet these requirements at all times.

(1) You must meet each emission limit and work practice standard in Table 1 through 3 to this subpart that applies to your EGU, for each EGU at your source, except as provided under §63.10009.

(2) You must meet each operating limit in Table 4 to this subpart that applies to your EGU.

(b) As provided in §63.6(g), the Administrator may approve use of an alternative to the work practice standards in this section.

(c) You may use the alternate SO_2 limit in Tables 1 and **2** to this subpart only if your EGU:
(1) Has a system using wet or dry flue gas desulfurization technology and SO_2 continuous emissions monitoring system (CEMS) installed on the unit; and
(2) At all times, you operate the wet or dry flue gas desulfurization technology installed on the unit consistent with §63.10000(b)."

General Compliance Requirements
§63.10000 - What are my general requirements for complying with this subpart?
"(a) You must be in compliance with the emission limits and operating limits in this subpart. These limits apply to you at all times except during periods of startup and shutdown; however, for **coal-fired**, liquid oil-fired, or solid oil-derived fuel-fired EGUs, you are required to meet the work practice requirements in Table 3 to this subpart during periods of startup or shutdown.
(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the EPA Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source."
"(c)(1) For **coal-fired** units, IGCC units, and solid oil-derived fuel-fired units, initial performance testing is required for all pollutants, to demonstrate compliance with the applicable emission limits.
(i) (i) *Not Applicable.*
(ii) *Not Applicable.*
(iii) *Not Applicable*.
(iv) If your **coal-fired** or solid oil derived fuel-fired EGU or IGCC EGU does not qualify as a LEE for total non-mercury HAP metals, individual non-mercury HAP metals, or filterable particulate matter (PM), you must demonstrate compliance through an initial performance test and you must monitor continuous performance through either use of a particulate matter continuous parametric monitoring system (PM CPMS), a **PM CEMS**, or, for an existing EGU, compliance performance testing repeated quarterly.
(v) If your **coal-fired** or solid oil-derived fuel-fired EGU does not qualify as a LEE for hydrogen chloride (HCl), you may demonstrate initial and continuous compliance through use of an **HCl CEMS**, installed and operated in accordance with Appendix B to this subpart. As an alternative to HCl CEMS, you may demonstrate initial and continuous compliance by conducting an initial and periodic quarterly performance stack test for HCl. **If your EGU uses wet or dry flue gas desulfurization technology (this includes limestone injection into a fluidized bed combustion unit), you may apply a second alternative to HCl CEMS by installing and operating a sulfur dioxide (SO_2) CEMS installed and**

operated in accordance with part 75 of this chapter to demonstrate compliance with the applicable SO_2 emissions limit.

(vi) If your coal-fired or solid oil-derived fuel-fired EGU does not qualify as a LEE for Hg, you must demonstrate initial and continuous compliance through use of a Hg CEMS or a sorbent trap monitoring system, in accordance with appendix A to this subpart.

(A) *Not Applicable*.

(B) *Not Applicable*

"(d)(1) If 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 and submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation (where applicable) of your CMS. This requirement also applies to you if you petition the Administrator for alternative monitoring parameters under §63.8(f). **This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing monitoring plans that apply to CEMS and CPMS prepared under appendix B to part 60 or part 75 of this chapter, and that meet the requirements of §63.10010**. Using the process described in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in this paragraph of this section and, if approved, include those in your site-specific monitoring plan. The monitoring plan must address the provisions in paragraphs (d)(2) through (5) of this section."

"d(4) You must operate and maintain the CMS according to the site-specific monitoring plan."

"(e) As part of your demonstration of continuous compliance, you must perform periodic tune-ups of your EGU(s), according to §63.10021(e)."

"(f) You are subject to the requirements of this subpart for at least 6 months following the last date you met the definition of an EGU subject to this subpart (e.g., 6 months after a cogeneration unit provided more than one third of its potential electrical output capacity and more than 25 megawatts electrical output to any power distribution system for sale). You may opt to remain subject to the provisions of this subpart beyond 6 months after the last date you met the definition of an EGU subject to this subpart, unless you are a solid waste incineration unit subject to standards under CAA section 129 (e.g., 40 CFR Part 60, Subpart CCCC (New Source Performance Standards (NSPS) for Commercial and Industrial Solid Waste Incineration Units, or Subpart DDDD (Emissions Guidelines (EG) for Existing Commercial and Industrial Solid Waste Incineration Units). Notwithstanding the provisions of this subpart, an EGU that starts combusting solid waste is immediately subject to standards under CAA section 129 and the EGU remains subject to those standards until the EGU no longer meets the definition of a solid waste incineration unit consistent with the provisions of the applicable CAA section 129 standards."

"(j) All air pollution control equipment necessary for compliance with any newly applicable emissions limits which apply as a result of the cessation or commencement or recommencement of operations that cause your EGU to meet the definition of an EGU subject to this subpart must be installed and operational as of the date your source ceases to be or becomes subject to this subpart.
(k) All monitoring systems necessary for compliance with any newly applicable monitoring requirements which apply as a result of the cessation or commencement or recommencement of operations that cause your EGU to meet the definition of an EGU subject to this subpart must be installed and operational as of the date your source ceases to be or becomes subject to this subpart. All calibration and drift checks must be performed as of the date your source ceases to be or becomes subject to this subpart. You must also comply with provisions of §§63.10010, 63.10020, and 63.10021 of this subpart. Relative accuracy tests must be performed as of the performance test deadline for PM CEMS, if applicable. Relative accuracy testing for other CEMS need not be repeated if that testing was previously performed consistent with CAA section 112 monitoring requirements or monitoring requirements under this subpart.
(l) On or before the date an EGU is subject to this subpart, you must install, certify, operate, maintain, and quality assure each monitoring system necessary for demonstrating compliance with the work practice standards for PM or non-mercury HAP metals during startup periods and shutdown periods. You must collect, record, report, and maintain data obtained from these monitoring systems during startup periods and shutdown periods."

Compliance Demonstration

§63.10005 - What are my initial compliance requirements and by what date must I conduct them?

(a) *General requirements.* For each of your affected EGUs, you must demonstrate initial compliance with each applicable emissions limit in Table 1 or **2** of this subpart through performance testing. Where two emissions limits are specified for a particular pollutant (e.g., a heat input-based limit in lb/MMBtu and an electrical output-based limit in lb/MWh), you may demonstrate compliance with either emission limit. For a particular compliance demonstration, you may be required to conduct one or more of the following activities in conjunction with performance testing: collection of hourly electrical load data (megawatts); establishment of operating limits according to §63.10011 and Tables 4 and 7 to this subpart; and CMS performance evaluations. In all cases, you must demonstrate initial compliance no later than the applicable date in paragraph (f) of this section for tune-up work practices for **existing** EGUs, in §63.9984 for other requirements for existing EGUs, and in paragraph (g) of this section for all requirements for new EGUs.
(1) To demonstrate initial compliance with an applicable emissions limit in Table 1 or 2 to this subpart using stack testing, the initial performance test generally consists of three runs at specified process operating conditions using approved methods. If you are required to establish operating limits (see paragraph (d) of

this section and Table 4 to this subpart), you must collect all applicable parametric data during the performance test period. Also, if you choose to comply with an electrical output-based emission limit, you must collect hourly electrical load data during the test period.

(2) To demonstrate initial compliance using either a CMS that measures HAP concentrations directly (*i.e.,* an **Hg**, HCl, or HF **CEMS**, or a sorbent trap monitoring system) or an **SO_2 or PM CEMS**, the initial performance test consists of 30- (or, if emissions averaging for Hg is used, 90-) boiler operating days of data collected by the initial compliance demonstration date specified in §63.9984(f) with the certified monitoring system. Pollutant emission rates measured during startup periods and shutdown period (as defined in §63.10042) are not to be included in the compliance demonstration, except as otherwise provided in §63.10000(c)(1)(vi)(B) and paragraph (a)(2)(iii) of this section.

(i) The 30- (or, if applicable, 90-) boiler operating day CMS performance test must demonstrate compliance with the applicable Hg, HCl, HF, PM, or SO_2 emissions limit in Table 1 or 2 to this subpart.

(ii) You must collect hourly data from auxiliary monitoring systems (i.e., stack gas flow rate, CO_2, O_2, or moisture, as applicable) during the performance test period, in order to convert the pollutant concentrations to units of the standard. If you choose to comply with an electrical output-based emission limit, you must also collect hourly electrical load data during the performance test period.

(iii) For a group of affected units that are in the same subcategory, are subject to the same emission standards, and share a common stack, if you elect to demonstrate compliance by monitoring emissions at the common stack, startup and shutdown emissions (if any) that occur during the 30-(or, if applicable, 90-) boiler operating day performance test must either be excluded from or included in the compliance demonstration as follows:

(A) If one of the units that shares the stack either starts up or shuts down at a time when none of the other units is operating, you must exclude all pollutant emission rates measured during the startup or shutdown period, unless you are using a sorbent trap monitoring system to measure Hg emissions and have elected to include startup and shutdown emissions in the compliance demonstrations;

(B) If all units that are currently operating are in the startup or shutdown mode, you must exclude all pollutant emission rates measured during the startup or shutdown period, unless you are using a sorbent trap monitoring system to measure Hg emissions and have elected to include startup and shutdown emissions in the compliance demonstrations; or

(C) If any unit starts up or shuts down at a time when another unit is operating, and the other unit is not in the startup or shutdown mode, you must include all pollutant emission rates measured during the startup or shutdown period in the compliance demonstrations.

(b) *Performance testing requirements.* If you choose to use performance testing to demonstrate initial compliance with the applicable emissions limits in Tables 1 and 2 to this subpart for your EGUs, you must conduct the tests according to

§63.10007 and Table 5 to this subpart. For the purposes of the initial compliance demonstration, you may use test data and results from a performance test conducted prior to the date on which compliance is required as specified in §63.9984, provided that the following conditions are fully met:

(1) For a performance test based on stack test data, the test was conducted no more than 12 calendar months prior to the date on which compliance is required as specified in §63.9984;

(2) For a performance test based on data from a certified CEMS or sorbent trap monitoring system, the test consists of all valid CMS data recorded in the 30 boiler operating days immediately preceding that date;

(3) The performance test was conducted in accordance with all applicable requirements in §63.10007 and Table 5 to this subpart;

(4) A record of all parameters needed to convert pollutant concentrations to units of the emission standard (e.g., stack flow rate, diluent gas concentrations, hourly electrical loads) is available for the entire performance test period; and

(5) For each performance test based on stack test data, you certify, and keep documentation demonstrating, that the EGU configuration, control devices, and fuel(s) have remained consistent with conditions since the prior performance test was conducted.

(d) *CMS requirements.* If, for a particular emission or operating limit, you are required to (or elect to) demonstrate initial compliance using a continuous monitoring system, the CMS must pass a performance evaluation prior to the initial compliance demonstration. If a CMS has been previously certified under another state or federal program and is continuing to meet the on-going quality-assurance (QA) requirements of that program, then, provided that the certification and QA provisions of that program meet the applicable requirements of §§63.10010(b) through (h), an additional performance evaluation of the CMS is not required under this subpart.

(1) For an affected **coal-fired**, solid oil-derived fuel-fired, or liquid oil-fired EGU, you may demonstrate initial compliance with the applicable SO_2, HCl, or HF emissions limit in Table 1 or **2** to this subpart through use of an SO_2, HCl, or HF CEMS installed and operated in accordance with part 75 of this chapter or Appendix B to this subpart, as applicable. You may also demonstrate compliance with a filterable PM emission limit in Table 1 or **2** to this subpart through use of a **PM CEMS** installed, certified, and operated in accordance with §63.10010(i). Initial compliance is achieved if the arithmetic average of 30-boiler operating days of quality-assured CEMS data, expressed in units of the standard (see §63.10007(e)), meets the applicable SO_2, PM, HCl, or HF emissions limit in Table 1 or 2 to this subpart. Use Equation 19-19 of Method 19 in appendix A-7 to part 60 of this chapter to calculate the 30-boiler operating day average emissions rate. (NOTE: For this calculation, the term E_{hj} in Equation 19-19 must be in the same units of measure as the applicable HCl or HF emission limit in Table 1 or 2 to this subpart).

(3) For affected EGUs that are either required to or elect to demonstrate initial compliance with the applicable Hg emission limit in Table 1 or **2** of this subpart

using **Hg CEMS** or sorbent trap monitoring systems, initial compliance must be demonstrated no later than the applicable date specified in §63.9984(f) for existing EGUs and in paragraph (g) of this section for new EGUs. Initial compliance is achieved if the arithmetic average of 30-boiler operating days of quality-assured CEMS (or sorbent trap monitoring system) data, expressed in units of the standard (see section 6.2 of appendix A to this subpart), meets the applicable Hg emission limit in Table 1 or 2 to this subpart."

"(e) *Tune-ups.* All affected EGUs are subject to the work practice standards in Table 3 of this subpart. As part of your initial compliance demonstration, you must conduct a performance tune-up of your EGU according to §63.10021(e).

(f) For **existing** affected sources a tune-up may occur prior to April 16, 2012, so that existing sources without neural networks have up to 42 calendar months (3 years from promulgation plus 180 days) or, in the case of units employing neural network combustion controls, up to 54 calendar months (48 months from promulgation plus 180 days) after the date that is specified for your source in §63.9984 and according to the applicable provisions in §63.7(a)(2) as cited in Table 9 to this subpart to demonstrate compliance with this requirement. If a tune-up occurs prior to such date, the source must maintain adequate records to show that the tune-up met the requirements of this standard."

"(j) Startup and shutdown for coal-fired or solid oil derived-fired units. You must follow the requirements given in Table 3 to this subpart.

(k) You must submit a Notification of Compliance Status summarizing the results of your initial compliance demonstration, as provided in §63.10030."

§63.10006 - When must I conduct subsequent performance tests or tune-ups?

"(a) For liquid oil-fired, solid oil-derived fuel-fired and **coal-fired** EGUs and IGCC units using PM CPMS to monitor continuous performance with an applicable emission limit as provided for under §63.10000(c), you must conduct all applicable performance tests according to Table 5 to this subpart and §63.10007 at least every year."

"(c) Except where paragraphs (a) or (b) of this section apply, or where you install, certify, and operate a **PM CEMS** to demonstrate compliance with a filterable PM emissions limit, for liquid oil-, solid oil-derived fuel-, coal-fired and IGCC EGUs, you must conduct all applicable periodic emissions tests for filterable PM, individual, or total HAP metals emissions according to Table 5 to this subpart, §63.10007, and §63.10000(c), except as otherwise provided in §63.10021(d)(1)."

"(f) Unless you follow the requirements listed in paragraphs (g) and (h) of this section, performance tests required at least every 3 calendar years must be completed within 35 to 37 calendar months after the previous performance test; performance tests required at least every year must be completed within 11 to 13 calendar months after the previous performance test; and performance tests required at least quarterly must be completed within 80 to 100 calendar days after the previous performance test, except as otherwise provided in §63.10021(d)(1)."

"(j) You must report the results of performance tests and performance tune-ups within 60 days after the completion of the performance tests and performance tune-ups. The reports for all subsequent performance tests must include all applicable information required in §63.10031."

§63.10007 - What methods and other procedures must I use for the performance tests?

"(a) Except as otherwise provided in this section, you must conduct all required performance tests according to §63.7(d), (e), (f), and (h). You must also develop a site-specific test plan according to the requirements in §63.7(c).
(1) If you use **CEMS** (**Hg**, HCl, **SO_2**, or other) to determine compliance with a 30- (or, if applicable, 90-) boiler operating day rolling average emission limit, you must collect quality- assured CEMS data for all unit operating conditions, including startup and shutdown (see §63.10011(g) and Table 3 to this subpart), except as otherwise provided in §63.10020(b). Emission rates determined during startup periods and shutdown periods (as defined in §63.10042) are not to be included in the compliance determinations, except as otherwise provided in §§63.10000(c)(1)(vi)(B) and 63.10005(a)(2)(iii).
(2) If you conduct performance testing with test methods in lieu of continuous monitoring, operate the unit at maximum normal operating load conditions during each periodic (e.g., quarterly) performance test. Maximum normal operating load will be generally between 90 and 110 percent of design capacity but should be representative of site specific normal operations during each test run.
(3) For establishing operating limits with particulate matter continuous parametric monitoring system (PM CPMS) to demonstrate compliance with a PM or non Hg metals emissions limit, operate the unit at maximum normal operating load conditions during the performance test period. Maximum normal operating load will be generally between 90 and 110 percent of design capacity but should be representative of site specific normal operations during each test run.
(b) You must conduct each performance test (including traditional 3-run stack tests, 30-boiler operating day tests based on CEMS data (or sorbent trap monitoring system data), and 30-boiler operating day Hg emission tests for LEE qualification) according to the requirements in Table 5 to this subpart.
(d) Except for a 30-boiler operating day performance test based on CEMS (or sorbent trap monitoring system) data, where the concept of test runs does not apply, you must conduct a minimum of three separate test runs for each performance test, as specified in §63.7(e)(3). Each test run must comply with the minimum applicable sampling time or volume specified in Table 1 or 2 to this subpart. Sections 63.10005(d) and (h), respectively, provide special instructions for conducting performance tests based on CEMS or sorbent trap monitoring systems, and for conducting emission tests for LEE qualification.
(e) To use the results of performance testing to determine compliance with the applicable emission limits in Table 1 or 2 to this subpart, proceed as follows:
(1) Except for a 30-boiler operating day performance test based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant

are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), you must use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level.

(2) If the limits are expressed in lb/MMBtu or lb/TBtu, you must use the F-factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 in appendix A-7 to part 60 of this chapter. In cases where an appropriate F-factor is not listed in Table 19-2 of Method 19, you may use F-factors from Table 1 in section 3.3.5 of appendix F to part 75 of this chapter, or F-factors derived using the procedures in section 3.3.6 of appendix to part 75 of this chapter. Use the following factors to convert the pollutant concentrations measured during the initial performance tests to units of lb/scf, for use in the applicable Method 19 equations:

(i) Multiply SO_2 ppm by 1.66×10^{-7};

(ii) Multiply HCl ppm by 9.43×10^{-8};

(iii) Multiply HF ppm by 5.18×10^{-8};

(iv) Multiply HAP metals concentrations (mg/dscm) by 6.24×10^{-8}; and

(v) Multiply Hg concentrations (µg/scm) by 6.24×10^{-11}.

(3) To determine compliance with emission limits expressed in lb/MWh or lb/GWh, you must first calculate the pollutant mass emission rate during the performance test, in units of lb/h. For Hg, if a CEMS or sorbent trap monitoring system is used, use Equation A-2 or A-3 in appendix A to this subpart (as applicable). In all other cases, use an equation that has the general form of Equation A-2 or A-3, replacing the value of K with 1.66×10^{-7} lb/scf-ppm for SO_2, 9.43×10^{-8}lb/scf-ppm for HCl (if an HCl CEMS is used), 5.18×10^{-8} lb/scf-ppm for HF (if an HF CEMS is used), or 6.24×10^{-8} lb-scm/mg-scf for HAP metals and for HCl and HF (when performance stack testing is used), and defining C_h as the average SO_2, HCl, or HF concentration in ppm, or the average HAP metals concentration in mg/dscm. This calculation requires stack gas volumetric flow rate (scfh) and (in some cases) moisture content data (see §§63.10005(h)(3) and 63.10010). Then, if the applicable emission limit is in units of lb/GWh, use Equation A-4 in appendix A to this subpart to calculate the pollutant emission rate in lb/GWh. In this calculation, define $(M)_h$ as the calculated pollutant mass emission rate for the performance test (lb/h), and define $(MW)_h$ as the average electrical load during the performance test (megawatts). If the applicable emission limit is in lb/MWh rather than lb/GWh, omit the 10^3 term from Equation A-4 to determine the pollutant emission rate in lb/MWh.

(f) If you elect to (or are required to) use CEMS to continuously monitor Hg, HCl, HF, SO_2, or PM emissions (or, if applicable, sorbent trap monitoring systems to continuously collect Hg emissions data), the following default values are available for use in the emission rate calculations during startup periods or

shutdown periods (as defined in §63.10042). For the purposes of this subpart, these default values are not considered to be substitute data.
(1) *Diluent cap values.* If you use CEMS (or, if applicable, sorbent trap monitoring systems) to comply with a heat input-based emission rate limit, you may use the following diluent cap values for a startup or shutdown hour in which the measured CO_2 concentration is below the cap value or the measured O_2 concentration is above the cap value:
(i) For an IGCC EGU, you may use 1% for CO_2 or 19% for O_2.
(ii) For all other EGUs, you may use 5% for CO_2 or 14% for O_2.
(2) *Default electrical load.* If you use CEMS to continuously monitor Hg, HCl, HF, SO_2, or PM emissions (or, if applicable, sorbent trap monitoring systems to continuously collect Hg emissions data), the following default value is available for use in the emission rate calculations during startup periods or shutdown periods (as defined in §63.10042). For the purposes of this subpart, this default value is not considered to be substitute data. For a startup or shutdown hour in which there is heat input to an affected EGU but zero electrical load, you must calculate the pollutant emission rate using a value equivalent to 5% of the maximum sustainable electrical output, expressed in megawatts, as defined in section 6.5.2.1(a)(1) of Appendix A to part 75 of this chapter. This default electrical load is either the nameplate capacity of the EGU or the highest electrical load observed in at least four representative quarters of EGU operation. For a monitored common stack, the default electrical load is used only when all EGUs are operating (i.e., combusting fuel) are in startup or shutdown mode, and have zero electrical generation. Under those conditions, a default electrical load equal to 5% of the combined maximum sustainable electrical load of the EGUs that are operating but have a total of zero electrical load must be used to calculate the hourly electrical output-based pollutant emissions rate.
(g) Upon request, you shall make available to the EPA Administrator such records as may be necessary to determine whether the performance tests have been done according to the requirements of this section."

§63.10010 - <u>What are my monitoring, installation, operation, and maintenance requirements?</u>
"(a) Flue gases from the affected units under this subpart exhaust to the atmosphere through a variety of different configurations, including but not limited to individual stacks, a common stack configuration or a main stack plus a bypass stack. For the CEMS, PM CPMS, and sorbent trap monitoring systems used to provide data under this subpart, the continuous monitoring system installation requirements for these exhaust configurations are as follows:
(1) Single unit-single stack configurations. For an affected unit that exhausts to the atmosphere through a single, dedicated stack, you shall either install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the stack or at a location in the ductwork downstream of all emissions control devices, where the pollutant and diluents concentrations are representative of the emissions that exit to the atmosphere.

(2) Unit utilizing common stack with other affected unit(s). When an affected unit utilizes a common stack with one or more other affected units, but no non-affected units, you shall either:

(i) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the duct leading to the common stack from each unit; or

(ii) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the common stack."

"(4) Unit with a main stack and a bypass stack. If the exhaust configuration of an affected unit consists of a main stack and a bypass stack, you shall install CEMS on both the main stack and the bypass stack, or, <u>if it is not feasible to certify and quality-assure the data from a monitoring system on the bypass stack, you shall install a CEMS only on the main stack and count bypass hours of deviation from the monitoring requirements</u>."

"(b) If you use an oxygen (O_2) or carbon dioxide (CO_2) CEMS to convert measured pollutant concentrations to the units of the applicable emissions limit, the O_2 or CO_2 concentrations shall be monitored at a location that represents emissions to the atmosphere, *i.e.,* at the outlet of the EGU, downstream of all emission control devices. You must install, certify, maintain, and operate the CEMS according to part 75 of this chapter. Use only quality-assured O_2 or CO_2 data in the emissions calculations; do not use part 75 substitute data values.

(c) If you are required to use a stack gas flow rate monitor, either for routine operation of a sorbent trap monitoring system or to convert pollutant concentrations to units of an electrical output-based emission standard in Table 1 or 2 to this subpart, you must install, certify, operate, and maintain the monitoring system and conduct on-going quality-assurance testing of the system according to part 75 of this chapter. Use only unadjusted, quality-assured flow rate data in the emissions calculations. Do not apply bias adjustment factors to the flow rate data and do not use substitute flow rate data in the calculations.

(d) If you are required to make corrections for stack gas moisture content when converting pollutant concentrations to the units of an emission standard in Table 1 of 2 to this subpart, you must install, certify, operate, and maintain a moisture monitoring system in accordance with part 75 of this chapter. Alternatively, for coal-fired units, you may use appropriate fuel-specific default moisture values from §75.11(b) of this chapter to estimate the moisture content of the stack gas or you may petition the Administrator under §75.66 of this chapter for use of a default moisture value for non-coal-fired units. If you install and operate a moisture monitoring system, do not use substitute moisture data in the emissions calculations.

(e) If you use an HCl and/or HF CEMS, you must install, certify, operate, maintain, and quality-assure the data from the monitoring system in accordance with appendix B to this subpart. Calculate and record a 30-boiler operating day rolling average HCl or HF emission rate in the units of the standard, updated after each new boiler operating day. Each 30-boiler operating day rolling average emission rate is the average of all the valid hourly HCl or HF emission rates in

the preceding 30 boiler operating days (see section 9.4 of appendix B to this subpart).

(f)(1) If you use an SO_2 CEMS, you must install the monitor at the outlet of the EGU, downstream of all emission control devices, and you must certify, operate, and maintain the CEMS according to part 75 of this chapter.

(2) For on-going QA, the SO_2 CEMS must meet the applicable daily, quarterly, and semiannual or annual requirements in sections 2.1 through 2.3 of appendix B to part 75 of this chapter, with the following addition: You must perform the linearity checks required in section 2.2 of appendix B to part 75 of this chapter if the SO_2 CEMS has a span value of 30 ppm or less.

(3) Calculate and record a 30-boiler operating day rolling average SO_2 emission rate in the units of the standard, updated after each new boiler operating day. Each 30-boiler operating day rolling average emission rate is the average of all of the valid SO_2 emission rates in the preceding 30 boiler operating days.

(4) Use only unadjusted, quality-assured SO_2 concentration values in the emissions calculations; do not apply bias adjustment factors to the part 75 SO_2 data and do not use part 75 substitute data values. For startup or shutdown hours (as defined in §63.10042) the default electrical load and the diluent cap are available for use in the hourly SO_2 emission rate calculations, as described in §63.10007(f). Use a flag to identify each startup or shutdown hour and report a special code if the diluent cap or default electrical load is used to calculate the SO_2 emission rate for any of these hours.

(g) If you use a Hg CEMS or a sorbent trap monitoring system, you must install, certify, operate, maintain and quality-assure the data from the monitoring system in accordance with appendix A to this subpart. You must calculate and record a 30- (or, if alternate emissions averaging is used, 90-) boiler operating day rolling average Hg emission rate, in units of the standard, updated after each new boiler operating day. Each 30- (or, if alternate emissions averaging is used, 90-) boiler operating day rolling average emission rate, calculated according to section 6.2 of appendix A to the subpart, is the average of all of the valid hourly Hg emission rates in the preceding 30- (or, if alternate emissions averaging is used, a 90-) boiler operating days. Section 7.1.4.3 of appendix A to this subpart explains how to reduce sorbent trap monitoring system data to an hourly basis.

(i) If you choose to comply with the PM filterable emissions limit in lieu of metal HAP limits, you may choose to install, certify, operate, and maintain a PM CEMS and record the output of the PM CEMS as specified in paragraphs (i)(1) through (5) of this section. The compliance limit will be expressed as a 30-boiler operating day rolling average of the numerical emissions limit value applicable for your unit in tables 1 or 2 to this subpart.

(1) Install and certify your PM CEMS according to the procedures and requirements in Performance Specification 11—Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix B to part 60 of this chapter, using Method 5 at Appendix A-3 to part 60 of this chapter and ensuring that the front half filter temperature shall be 160° ±14 °C (320° ±25 °F). The reportable measurement

output from the PM CEMS must be expressed in units of the applicable emissions limit (e.g., lb/MMBtu, lb/MWh).
(2) Operate and maintain your PM CEMS according to the procedures and requirements in Procedure 2—Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix F to part 60 of this chapter.
(i) You must conduct the relative response audit (RRA) for your PM CEMS at least once annually.
(ii) You must conduct the relative correlation audit (RCA) for your PM CEMS at least once every 3 years.
(3) Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in paragraph (i) of this section.
(4) Calculate the arithmetic 30-boiler operating day rolling average of all of the hourly average PM CEMS output data collected during all nonexempt boiler operating hours.
(5) You must collect data using the PM CEMS at all times the process unit is operating and at the intervals specified in paragraph (a) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities.
(i) You must use all the data collected during all boiler operating hours in assessing the compliance with your operating limit except:
(A) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions in calculations and report any such periods in your annual deviation report;
(B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out of control periods in calculations used to report emissions or operating levels and report any such periods in your annual deviation report;
(C) Any data recorded during periods of startup or shutdown.
(ii) You must record and make available upon request results of PM CEMS system performance audits, dates and duration of periods when the PM CEMS is out of control to completion of the corrective actions necessary to return the PM CEMS to operation consistent with your site-specific monitoring plan.
(j) You may choose to comply with the metal HAP emissions limits using CEMS approved in accordance with §63.7(f) as an alternative to the performance test method specified in this rule. If approved to use a HAP metals CEMS, the compliance limit will be expressed as a 30-boiler operating day rolling average of the numerical emissions limit value applicable for your unit in tables 1 or 2. If approved, you may choose to install, certify, operate, and maintain a HAP metals CEMS and record the output of the HAP metals CEMS as specified in paragraphs (j)(1) through (5) of this section.

(1)(i) Install and certify your HAP metals CEMS according to the procedures and requirements in your approved site-specific test plan as required in §63.7(e). The reportable measurement output from the HAP metals CEMS must be expressed in units of the applicable emissions limit (*e.g.,* lb/MMBtu, lb/MWh) and in the form of a 30-boiler operating day rolling average.
(ii) Operate and maintain your HAP metals CEMS according to the procedures and criteria in your site specific performance evaluation and quality control program plan required in §63.8(d).
(2) Collect HAP metals CEMS hourly average output data for all boiler operating hours except as indicated in section (j)(4) of this section.
(3) Calculate the arithmetic 30-boiler operating day rolling average of all of the hourly average HAP metals CEMS output data collected during all nonexempt boiler operating hours data.
(4) You must collect data using the HAP metals CEMS at all times the process unit is operating and at the intervals specified in paragraph (a) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities.
(i) You must use all the data collected during all boiler operating hours in assessing the compliance with your emission limit except:
(A) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions in calculations and report any such periods in your annual deviation report;
(B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out of control periods in calculations used to report emissions or operating levels and report any such periods in your annual deviation report;
(C) Any data recorded during periods of startup or shutdown.
(ii) You must record and make available upon request results of HAP metals CEMS system performance audits, dates and duration of periods when the HAP metals CEMS is out of control to completion of the corrective actions necessary to return the HAP metals CEMS to operation consistent with your site-specific performance evaluation and quality control program plan."

§63.10011 - <u>How do I demonstrate initial compliance with the emissions limits and work practice standards?</u>
(a) You must demonstrate initial compliance with each emissions limit that applies to you by conducting performance testing.
(c)(1) If you use CEMS or sorbent trap monitoring systems to measure a HAP (e.g., Hg or HCl) directly, the first 30-boiler operating day (or, if alternate emissions averaging is used for Hg, the 90-boiler operating day) rolling average emission rate obtained with certified CEMS after the applicable date in §63.9984

(or, if applicable, prior to that date, as described in §63.10005(b)(2)), expressed in units of the standard, is the initial performance test. Initial compliance is demonstrated if the results of the performance test meet the applicable emission limit in Table 1 or 2 to this subpart.

(2) For a unit that uses a **CEMS to measure SO_2 or PM** emissions for initial compliance, the first 30 boiler operating day average emission rate obtained with certified CEMS after the applicable date in §63.9984 (or, if applicable, prior to that date, as described in §63.10005(b)(2)), expressed in units of the standard, is the initial performance test. Initial compliance is demonstrated if the results of the performance test meet the applicable SO2 or filterable PM emission limit in Table 1 or 2 to this subpart."

"(e) You must submit a Notification of Compliance Status containing the results of the initial compliance demonstration, according to §63.10030(e).

(f)(1) You must determine the fuel whose combustion produces the least uncontrolled emissions, i.e., the cleanest fuel, either natural gas or distillate oil, that is available on site or accessible nearby for use during periods of startup or shutdown.

(2) Your cleanest fuel, either natural gas or distillate oil, for use during periods of startup or shutdown determination may take safety considerations into account.

(g) You must follow the startup or shutdown requirements given in Table 3 for each coal-fired, liquid oil-fired, and solid oil-derived fuel-fired EGU."

(1) You may use the diluent cap and default electrical load values, as described in §63.10007(f), during startup periods or shutdown periods.

(2) You must operate all CMS, collect data, calculate pollutant emission rates, and record data during startup periods or shutdown periods.

(3) You must report the information as required in §63.10031.

(4) If you choose to use paragraph (2) of the definition of "startup" in §63.10042 and you find that you are unable to safely engage and operate your particulate matter (PM) control(s) within 1 hour of first firing of coal, residual oil, or solid oil-derived fuel, you may choose to rely on paragraph (1) of definition of "startup" in §63.10042 or you may submit a request to use an alternative non-opacity emissions standard, as described below.

(i) As mentioned in §63.6(g)(1), the request will be published in the FEDERAL REGISTER for notice and comment rulemaking. Until promulgation in the FEDERAL REGISTER of the final alternative non-opacity emission standard, you shall comply with paragraph (1) of the definition of "startup" in §63.10042. You shall not implement the alternative non-opacity emissions standard until promulgation in the FEDERAL REGISTER of the final alternative non-opacity emission standard.

(ii) The request need not address the items contained in §63.6(g)(2).

(iii) The request shall provide evidence of a documented manufacturer-identified safely issue.

(iv) The request shall provide information to document that the PM control device is adequately designed and sized to meet the PM emission limit applicable to the EGU.

(v) In addition, the request shall contain documentation that:
(A) The EGU is using clean fuels to the maximum extent possible to bring the EGU and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel in the EGU;
(B) The EGU has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue; and
(C) Identifies with specificity the details of the manufacturer's statement of concern.
(vi) The request shall specify the other work practice standards the EGU owner or operator will take to limit HAP emissions during startup periods and shutdown periods to ensure a control level consistent with the work practice standards of the final rule.
(vii) You must comply with all other work practice requirements, including but not limited to data collection, recordkeeping, and reporting requirements."

Continuous Compliance Requirements

§63.10020 - How do I monitor and collect data to demonstrate continuous compliance?

"(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.10000(d).
(b) You must operate the monitoring system and collect data at all required intervals at all times that the affected EGU is operating, except for periods of monitoring system malfunctions or out-of-control periods (see §63.8(c)(7) of this part), and required monitoring system quality assurance or quality control activities, including, as applicable, calibration checks and required zero and span adjustments. You are required to affect monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable.
(c) You may not use data recorded during EGU startup or shutdown or monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.
(d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments), failure to collect required data is a deviation from the monitoring requirements.
(e) Additional requirements during startup periods and shutdown periods
(1) During each period of startup, you must record for each EGU:

(i) The date and time that clean fuels being combusted for the purpose of startup begins;
(ii) The quantity and heat input of clean fuel for each hour of startup;
(iii) The electrical load for each hour of startup;
(iv) The date and time that non-clean fuel combustion begins; and
(v) The date and time that clean fuels being combusted for the purpose of startup ends.
(2) During each period of shutdown, you must record for each EGU:
(i) The date and time that clean fuels being combusted for the purpose of shutdown begins;
(ii) The quantity and heat input of clean fuel for each hour of shutdown;
(iii) The electrical load for each hour of shutdown;
(iv) The date and time that non-clean fuel combustion ends; and
(v) The date and time that clean fuels being combusted for the purpose of shutdown ends.
(3) Not applicable

§63.10021 - <u>How do I demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards?</u>
"(a) You must demonstrate continuous compliance with each emissions limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that applies to you, according to the monitoring specified in Tables 6 and 7 to this subpart and paragraphs (b) through (g) of this section.
(b) Except as otherwise provided in §63.10020(c), if you use a CEMS to measure SO_2 , PM, HCl, HF, or Hg emissions, or using a sorbent trap monitoring system to measure Hg emissions, you must demonstrate continuous compliance by using all quality-assured hourly data recorded by the CEMS (or sorbent trap monitoring system) and the other required monitoring systems (e.g., flow rate, CO_2 , O2 , or moisture systems) to calculate the arithmetic average emissions rate in units of the standard on a continuous 30-boiler operating day (or, if alternate emissions averaging is used for Hg, 90-boiler operating day) rolling average basis, updated at the end of each new boiler operating day. Use Equation 8 to determine the 30- (or, if applicable, 90-) boiler operating day rolling average.

$$Boiler\ operating\ day\ average = \frac{\sum_{i=1}^{n} Her_i}{n} \quad (Eq.\ 8)$$

Where:
Her_i is the hourly emissions rate for hour i and n is the number of hourly emissions rate values collected over 30- (or, if applicable, 90-) boiler operating days.

"(e) If you must conduct periodic performance tune-ups of your EGU(s), as specified in paragraphs (e)(1) through (9) of this section, perform the first tune-up as part of your initial compliance demonstration. Notwithstanding this requirement, you may delay the first burner inspection until the next scheduled unit outage provided you meet the requirements of §63.10005. Subsequently, you must perform an inspection of the burner at least once every 36 calendar

months unless your EGU employs neural network combustion optimization during normal operations in which case you must perform an inspection of the burner and combustion controls at least once every 48 calendar months.

(1) As applicable, inspect the burner and combustion controls, and clean or replace any components of the burner or combustion controls as necessary upon initiation of the work practice program and at least once every required inspection period. Repair of a burner or combustion control component requiring special order parts may be scheduled as follows:

(i) Burner or combustion control component parts needing replacement that affect the ability to optimize NO_X and CO must be installed within 3 calendar months after the burner inspection,

(ii) Burner or combustion control component parts that do not affect the ability to optimize NO_X and CO may be installed on a schedule determined by the operator;

(2) As applicable, inspect the flame pattern and make any adjustments to the burner or combustion controls necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available, or in accordance with best combustion engineering practice for that burner type;

(3) As applicable, observe the damper operations as a function of mill and/or cyclone loadings, cyclone and pulverizer coal feeder loadings, or other pulverizer and coal mill performance parameters, making adjustments and effecting repair to dampers, controls, mills, pulverizers, cyclones, and sensors;

(4) As applicable, evaluate wind box pressures and air proportions, making adjustments and effecting repair to dampers, actuators, controls, and sensors;

(5) Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly. Such inspection may include calibrating excess O_2 probes and/or sensors, adjusting overfire air systems, changing software parameters, and calibrating associated actuators and dampers to ensure that the systems are operated as designed. Any component out of calibration, in or near failure, or in a state that is likely to negate combustion optimization efforts prior to the next tune-up, should be corrected or repaired as necessary;

(6) Optimize combustion to minimize generation of CO and NO_X. This optimization should be consistent with the manufacturer's specifications, if available, or best combustion engineering practice for the applicable burner type. NO_X optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, adjusting combustion zone temperature profiles, and add-on controls such as SCR and SNCR; CO optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, and adjusting combustion zone temperature profiles;

(7) While operating at full load or the predominantly operated load, measure the concentration in the effluent stream of CO and NO_X in ppm, by volume, and

oxygen in volume percent, before and after the tune-up adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). You may use portable CO, NO_X and O_2 monitors for this measurement. EGU's employing neural network optimization systems need only provide a single pre- and post-tune-up value rather than continual values before and after each optimization adjustment made by the system;

(8) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (e)(1) through (e)(9) of this section including:

(i) The concentrations of CO and NO_X in the effluent stream in ppm by volume, and oxygen in volume percent, measured before and after an adjustment of the EGU combustion systems;

(ii) A description of any corrective actions taken as a part of the combustion adjustment; and

(iii) The type(s) and amount(s) of fuel used over the 12 calendar months prior to an adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period; and

(9) Report the dates of the initial and subsequent tune-ups as follows:

(i) If the first required tune-up is performed as part of the initial compliance demonstration, report the date of the tune-up in hard copy (as specified in §63.10030) and electronically (as specified in §63.10031). Report the date of each subsequent tune-up electronically (as specified in §63.10031).

(ii) If the first tune-up is not conducted as part of the initial compliance demonstration, but is postponed until the next unit outage, report the date of that tune-up and all subsequent tune-ups electronically, in accordance with §63.10031."

"(f) You must submit the reports required under §63.10031 and, if applicable, the reports required under appendices A and B to this subpart. The electronic reports required by appendices A and B to this subpart must be sent to the Administrator electronically in a format prescribed by the Administrator, as provided in §63.10031. CEMS data (except for PM CEMS and any approved alternative monitoring using a HAP metals CEMS) shall be submitted using EPA's Emissions Collection and Monitoring Plan System (ECMPS) Client Tool. Other data, including PM CEMS data, HAP metals CEMS data, and CEMS performance test detail reports, shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool, the Compliance and Emissions Data Reporting Interface, or alternate electronic file format, all as provided for under §63.10031.

(g) You must report each instance in which you did not meet an applicable emissions limit or operating limit in Tables 1 through 4 to this subpart or failed to conduct a required tune-up. These instances are deviations from the requirements of this subpart. These deviations must be reported according to §63.10031.

(h) You must keep records as specified in §63.10032 during periods of startup and shutdown.
(1) You may use the diluent cap and default electrical load values, as described in §63.10007(f), during startup periods or shutdown periods.
(2) You must operate all CMS, collect data, calculate pollutant emission rates, and record data during startup periods or shutdown periods.
(3) You must report the information as required in §63.10031.
(4) You may choose to submit an alternative non-opacity emission standard, in accordance with the requirements contained in §63.10011(g)(4). Until promulgation in the FEDERAL REGISTER of the final alternative non-opacity emission standard, you shall comply with paragraph (1) of the definition of "startup" in §63.10042.
(i) You must provide reports as specified in §63.10031 concerning activities and periods of startup and shutdown."

§63.10032 - <u>What records must I keep?</u>
"(a) You must keep records according to paragraphs (a)(1) and (2) of this section. If you are required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, you must also keep the records required under appendix A and/or appendix B to this subpart.
(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv).
(2) Records of performance stack tests, fuel analyses, or other compliance demonstrations and performance evaluations, as required in §63.10(b)(2)(viii).
(b) For each CEMS and CPMS, you must keep records according to paragraphs (b)(1) through (4) of this section.
(1) Records described in §63.10(b)(2)(vi) through (xi).
(2) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3).
(3) Request for alternatives to relative accuracy test for CEMS as required in §63.8(f)(6)(i).
(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.
(c) You must keep the records required in Table 7 to this subpart including records of all monitoring data and calculated averages for applicable PM CPMS operating limits to show continuous compliance with each emission limit and operating limit that applies to you.
(d) For each EGU subject to an emission limit, you must also keep the records in paragraphs (d)(1) through (3) of this section.
(1) You must keep records of monthly fuel use by each EGU, including the type(s) of fuel and amount(s) used.
(2) Not Applicable.

(3) Not Applicable."
"(e) If you elect to average emissions consistent with §63.10009, you must additionally keep a copy of the emissions averaging implementation plan required in §63.10009(g), all calculations required under §63.10009, including daily records of heat input or steam generation, as applicable, and monitoring records consistent with §63.10022.
(f) You must keep records of the occurrence and duration of each startup and/or shutdown.
(g) You must keep records of the occurrence and duration of each malfunction of an operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment.
(h) You must keep records of actions taken during periods of malfunction to minimize emissions in accordance with §63.10000(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.
(i) You must keep records of the type(s) and amount(s) of fuel used during each startup or shutdown."

§63.10033 - <u>In what form and how long must I keep my records?</u>
"(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1).
(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.
(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years."

§63.10030 - <u>What notifications must I submit and when?</u>
"(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) that apply to you by the dates specified.
(b) As specified in §63.9(b)(2), if you startup your EGU that is an affected source before April 16, 2012, you must submit an Initial Notification not later than 120 days after April 16, 2012."
"(d) When you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin.
(e) 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 (7), as applicable.
(1) A description of the affected source(s) including identification of which subcategory the source is in, the design capacity of the source, a description of

the add-on controls used on the source, description of the fuel(s) burned, including whether the fuel(s) were determined by you or EPA through a petition process to be a non-waste under 40 CFR 241.3, whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of 40 CFR 241.3, and justification for the selection of fuel(s) burned during the performance test.

(2) Summary of the results of all performance tests and fuel analyses and calculations conducted to demonstrate initial compliance including all established operating limits.

(3) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing; fuel moisture analyses; performance testing with operating limits (e.g., use of PM CPMS); CEMS; or a sorbent trap monitoring system.

(4) Identification of whether you plan to demonstrate compliance by emissions averaging.

(5) A signed certification that you have met all applicable emission limits and work practice standards.

(6) If you had a deviation from any emission limit, work practice standard, or operating limit, you must also submit a brief description of the deviation, the duration of the deviation, emissions point identification and the cause of the deviation in the Notification of Compliance Status report.

(7) In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following:

(i) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable. If you are conducting stack tests once every 3 years consistent with §63.10006(b), the date of the last three stack tests, a comparison of the emission level you achieved in the last three stack tests to the 50 percent emission limit threshold required in §63.10006(i), and a statement as to whether there have been any operational changes since the last stack test that could increase emissions.

(ii) Certifications of compliance, as applicable, and must be signed by a responsible official stating:

(A) “This EGU complies with the requirements in §63.10021(a) to demonstrate continuous compliance.” and

(B) “No secondary materials that are solid waste were combusted in any affected unit.”

“(8) Identification of whether you plan to rely on paragraph (1) or (2) of the definition of “startup” in §63.10042. **Note:** NRG has selected Option 1.

(i) Should you choose to rely on paragraph (2) of the definition of “startup” in §63.10042 for your EGU, you shall include a report that identifies:

(A) The original EGU installation date;

(B) The original EGU design characteristics, including, but not limited to, fuel and PM controls;

(C) Each design PM control device efficiency;

(D) The design PM emission rate from the EGU in terms of pounds PM per MMBtu and pounds PM per hour;
(E) The design time from start of fuel combustion to necessary conditions for each PM control device startup;
(F) Each design PM control device efficiency upon startup of the PM control device;
(G) The design EGU uncontrolled PM emission rate in terms of pounds PM per hour;
(H) Each change from the original design that did or could have changed PM emissions, including, but not limited to, each different fuel mix, each revision to each PM control device, and each EGU revision, along with the month and year that the change occurred;
(I) Current EGU PM producing characteristics, including, but not limited to, fuel mix and PM controls;
(J) Current PM emission rate from the EGU in terms of pounds PM per MMBtu and pounds per hour;
(K) Current PM control device efficiency from each PM control device;
(L) Current time from start of fuel combustion to conditions necessary for each PM control device startup;
(M) Current PM control device efficiency upon startup of each PM control device; and
(N) Current EGU uncontrolled PM emission rate in terms of pounds PM per hour.
(ii) The report shall be prepared, signed, and sealed by a professional engineer licensed in the state where your EGU is located. Apart from preparing, signing, and sealing this report, the professional engineer shall be independent and not otherwise employed by your company, any parent company of your company, or any subsidiary of your company."

§63.10031 - <u>What reports must I submit and when?</u>
"(a) You must submit each report in Table 8 to this subpart that applies to you. If you are required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, you must also submit the electronic reports required under appendix A and/or appendix B to the subpart, at the specified frequency.
(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 8 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.
(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.9984 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in §63.9984.
(2) The first compliance report must be postmarked or submitted electronically no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.9984.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
(4) Each subsequent compliance report must be postmarked or submitted electronically no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.
(5) For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.
(c) The compliance report must contain the information required in paragraphs (c)(1) through (4) of this section.
(1) The information required by the summary report located in 63.10(e)(3)(vi).
(2) The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure.
(3) Indicate whether you burned new types of fuel during the reporting period. If you did burn new types of fuel you must include the date of the performance test where that fuel was in use.
(4) Include the date of the most recent tune-up for each unit subject to the requirement to conduct a performance tune-up according to §63.10021(e). Include the date of the most recent burner inspection if it was not done every 36 (or 48) months and was delayed until the next scheduled unit shutdown.
5) For each instance of startup or shutdown:
(i) Include the maximum clean fuel storage capacity and the maximum hourly heat input that can be provided for each clean fuel determined according to the requirements of §63.10032(f).
(ii) Include the information required to be monitored, collected, or recorded according to the requirements of §63.10020(e).
(iii) If you choose to use CEMS for compliance purposes, include hourly average CEMS values and hourly average flow rates. Use units of milligrams per cubic meter for PM CEMS, micrograms per cubic meter for Hg CEMS, and ppmv for HCl, HF, or SO_2 CEMS. Use units of standard cubic meters per hour on a wet basis for flow rates.
(iv) If you choose to use a separate sorbent trap measurement system for startup or shutdown reporting periods, include hourly average mercury concentration in terms of micrograms per cubic meter.
(v) If you choose to use a PM CPMS, include hourly average operating parameter values in terms of the operating limit, as well as the operating parameter to PM correlation equation.

(d) For each excess emissions occurring at an affected source where you are using a CMS to comply with that emission limit or operating limit, you must include the information required in §63.10(e)(3)(v) in the compliance report specified in section (c).

(e) Each affected source that has obtained a Title V operating permit pursuant to part 70 or part 71 of this chapter must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 8 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. Submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(f) On or after April 16, 2017, within 60 days after the date of completing each performance test, you must submit the performance test reports required by this subpart to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using those test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority.

(1) On or after April 16, 2017, within 60 days after the date of completing each CEMS (SO_2, PM, HCl, HF, and Hg) performance evaluation test, as defined in §63.2 and required by this subpart, you must submit the relative accuracy test audit (RATA) data (or, for PM CEMS, RCA and RRA data) required by this subpart to EPA's WebFIRE database by using CEDRI that is accessed through EPA's CDX (*www.epa.gov/cdx*). The RATA data shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (*http://www.epa.gov/ttn/chief/ert/index.html*). Only RATA data compounds listed

on the ERT Web site are subject to this requirement. Owners or operators who claim that some of the information being submitted for RATAs is confidential business information (CBI) shall submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) by registered letter to EPA and the same ERT file with the CBI omitted to EPA via CDX as described earlier in this paragraph. The compact disk or other commonly used electronic storage media shall be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. At the discretion of the delegated authority, owners or operators shall also submit these RATAs to the delegated authority in the format specified by the delegated authority. Owners or operators shall submit calibration error testing, drift checks, and other information required in the performance evaluation as described in §63.2 and as required in this chapter.

(2) On or after April 16, 2017, for a PM CEMS, PM CPMS, or approved alternative monitoring using a HAP metals CEMS, within 60 days after the reporting periods ending on March 31st, June 30th, September 30th, and December 31st, you must submit quarterly reports to EPA's WebFIRE database by using the CEDRI that is accessed through EPA's CDX (*www.epa.gov/cdx*). You must use the appropriate electronic reporting form in CEDRI or provide an alternate electronic file consistent with EPA's reporting form output format. For each reporting period, the quarterly reports must include all of the calculated 30-boiler operating day rolling average values derived from the CEMS and PM CPMS.

(3) Reports for an **SO_2 CEMS, a Hg CEMS** or sorbent trap monitoring system, an HCl or HF CEMS, and any supporting monitors for such systems (such as a diluent or moisture monitor) shall be submitted using the ECMPS Client Tool, as provided for in Appendices A and B to this subpart and §63.10021(f).

(4) On or after April 16, 2017, submit the compliance reports required under paragraphs (c) and (d) of this section and the notification of compliance status required under §63.10030(e) to EPA's WebFIRE database by using the CEDRI that is accessed through EPA's CDX (*www.epa.gov/cdx*). You must use the appropriate electronic reporting form in CEDRI or provide an alternate electronic file consistent with EPA's reporting form output format.

(5) All reports required by this subpart not subject to the requirements in paragraphs (f) introductory text and (f)(1) through (4) of this section must be sent to the Administrator at the appropriate address listed in §63.13. If acceptable to both the Administrator and the owner or operator of an EGU, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraphs (f) introductory text and (f)(1) through (4) of this section in paper format.

(6) Prior to April 16, 2017, all reports subject to electronic submittal in paragraphs (f) introductory text, (f)(1), (2), and (4) shall be submitted to the EPA at the frequency specified in those paragraphs in electronic portable document format (PDF) using the ECMPS Client Tool. Each PDF version of a submitted

report must include sufficient information to assess compliance and to demonstrate that the testing was done properly. The following data elements must be entered into the ECMPS Client Tool at the time of submission of each PDF file:

(i) The facility name, physical address, mailing address (if different from the physical address), and county;

(ii) The ORIS code (or equivalent ID number assigned by EPA's Clean Air Markets Division (CAMD)) and the Facility Registry System (FRS) ID;

(iii) The EGU (or EGUs) to which the report applies. Report the EGU IDs as they appear in the CAMD Business System;

(iv) If any of the EGUs in paragraph (f)(6)(iii) of this section share a common stack, indicate which EGUs share the stack. If emissions data are monitored and reported at the common stack according to part 75 of this chapter, report the ID number of the common stack as it is represented in the electronic monitoring plan required under §75.53 of this chapter;

(v) If any of the EGUs described in paragraph (f)(6)(iii) of this section are in an averaging plan under §63.10009, indicate which EGUs are in the plan and whether it is a 30- or 90-day averaging plan;

(vi) The identification of each emission point to which the report applies. An "emission point" is a point at which source effluent is released to the atmosphere, and is either a dedicated stack that serves one of the EGUs identified in paragraph (f)(6)(iii) of this section or a common stack that serves two or more of those EGUs. To identify an emission point, associate it with the EGU or stack ID in the CAMD Business system or the electronic monitoring plan (*e.g.,* "Unit 2 stack," "common stack CS001," or "multiple stack MS001");

(vii) The rule citation (*e.g.,* §63.10031(f)(1), §63.10031(f)(2), etc.) for which the report is showing compliance;

(viii) The pollutant(s) being addressed in the report;

(ix) The reporting period being covered by the report (if applicable);

(x) The relevant test method that was performed for a performance test (if applicable);

(xi) The date the performance test was conducted (if applicable); and

(xii) The responsible official's name, title, and phone number.

(g) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

Emission Units: F-CT1 thru F-CT6: Combustion Turbines

F-CT1 and F-CT2 – Two (2) General Electric Frame-5 combustion turbines each rated at 20 MW and used for black start capability and peaking service. These combustion turbines are fired on No. 2 fuel oil. The exhaust gas is vented to single 20 ft high stacks. **[4-0068 & 4-0069]**
F-CT3, F-CT4, F-CT5, F-CT6 – Four (4) General Electric Frame 7 combustion turbine each rated at 65 MW and used for peaking service. These combustion turbines are fired on No. 2 fuel oil. The exhaust gas is vented to single 20 ft high stacks. [**4-0070, 4-0071, 4-0073 & 4-0074]**

All combustion turbines were installed prior to subpart GG standards and therefore are not subject to 40 CFR Part 60, subpart GG and have no NO_X controls.

For CTs: Control of Particulate Matter: The requirements in Figure 1 and Figure 2 of this chapter do not apply to fuel-burning equipment burning gas or distillate oil. [COMAR 26.11.09.06A3(c)].

The CTs are not subject to the requirements of 40 CFR Part 63, Subpart YYYY—National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines since they were constructed before March 5, 2004.

Compliance Status
On August 8, 2012, testing was performed on two of the four (CT3-CT6) CTs as representative units since all four CTs are identical. The results are as follows:

Unit	NO_X lb/MMBtu ISO corrected	Unit Load (MW)
CT-5	0.542	40
CT-6	0.518	39

The highest average base load NO_X emission rate – 0.542 lb/MMBtu
The highest average peak load NO_X emission rate – 0.623 lb/MMBtu*
* Per 40 CFR 75.19(c)(1)(iv)(C)(9), peak load is calculated by multiplying the base load by 1.15.

Applicable Standards and limits

A. Control of Visible Emissions
COMAR 26.11.09.05A (1) & (3) – Fuel Burning Equipment
"Areas I, II, V, and VI. In Areas I, II, V, and VI, 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 greater than 20 percent opacity.
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."

Compliance Demonstration

The Permittee shall utilize the computer software program previously installed, or an equivalent computer software program, to prompt the tracking review of the operating hours of each combustion turbine at the Morgantown Plant and to alert Plant personnel to conduct Method 9 Observations as required by Section IV of the Plant's Title V operating permit. [**Reference: March 2008 Consent Decree Section IV: Monitoring Operating Hours, Paragraph 6**].

The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours of operation or at a minimum once per year.

The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity:

(a) inspect combustion control system and combustion turbine operations,

(b) perform all necessary adjustments and/or repairs to the combustion turbine within 48 hours of operation so that visible emissions are eliminated; and

(c) document in writing the results of inspections, adjustments and/or repairs to the combustion turbine.

The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily when combustion turbine operating for 18 minutes until corrective action have reduce visible emissions to less than 20 percent opacity.

The Permittee shall keep a copy of the visible emissions readings and the certification of the visible emission reader(s) for at least five years on site and make available to the Department upon request. [**Reference: COMAR 26.11.03.06C**]

The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations".

B. Control of Sulfur Oxides

COMAR 26.11.09.07A(1) - Sulfur Content Limitations for Fuel.

"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI:

(a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour;

(b) Residual fuel oils, 2.0 percent;

(c) Distillate fuel oils, 0.3 percent;
(d) Process gas used as fuel, 0.3 percent."

Compliance Demonstration
The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil **[Reference: COMAR 26.11.03.06C]**
The Permittee shall maintain records of fuel supplier's certification and shall make records available to the Department upon request. **[Reference: COMAR 26.11.03.06C]**
The Permittee shall report fuel supplier certifications to the Department upon request. **[Reference: COMAR 26.11.09.07C]**

Rationale for Periodic Monitoring: This strategy to certify sulfur content in oil is similar to the requirements for boilers under New Source Performance Standards.

C. Control of Nitrogen Oxides
COMAR 26.11.09.08G. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent.
"(1)A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
(a) Provide certification of the capacity factor of the equipment to the Department in writing;
(b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
(c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
(d) Not applicable; and
(e) Not applicable."
(2) A person who owns or operates a combustion turbine with a capacity factor greater than 15 percent shall meet an hourly average NO_X emission rate of not more than 42 ppm when burning gas or 65 ppm when burning fuel oil (dry volume at 15 percent oxygen) or meet applicable Prevention of Significant Deterioration limits, whichever is more restrictive."

Compliance Demonstration
The Permittee, if the turbines operate more than 500 hours, shall perform a combustion analysis and optimize combustion at least once annually.
[**Reference: COMAR 26.11.09.08G(1)(b)]**.

The Permittee shall maintain the results of the combustion analysis and any stack tests at the site for at least 5 years and make these results available to the Department and the EPA upon request. [**Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]**

The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with the support documentation in the Annual Emission Certification Report. **[Reference: COMAR 26.11.09.08G(1)(a) COMAR 26.11.03.06C].**

Cross-State Air Pollution Rule

TR NO_X Annual Trading Program 40 CFR Part 97 Subpart AAAAA

The Permittee shall comply with the provisions and requirements of §97.401 through §97.435

Note: §97.406(c) NO_X emissions requirements. For TR NO_X Annual emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall hold, in the source's compliance account, TR NO_X Annual allowances available for deduction for such control period under §97.424(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Annual units at the source.

Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Annual allowance transfer must be submitted for recordation in a TR NO_X Annual source's compliance account in order to be available for use in complying with the source's TR NO_X Annual emissions limitation for such control period in accordance with §§97.406 and 97.424.

TR NO_X Ozone Season Trading Program 40 CFR Part 97 Subpart BBBBB

The Permittee shall comply with the provisions and requirements of §97.501 through §97.535

Note: §97.506(c) NO_X emissions requirements. For TR NO_X Ozone Season emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall hold, in the source's compliance account, TR NO_X Ozone Season allowances available for deduction for such control period under §97.524(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Ozone Season units at the source.

Allowance transfer deadline means, for a control period in a given year, midnight of December 1 (if it is a business day), or midnight of the first business day thereafter (if December 1 is not a business day), immediately after such control

period and is the deadline by which a TR NO_X Ozone Season allowance transfer must be submitted for recordation in a TR NO_X Ozone Season source's compliance account in order to be available for use in complying with the source's TR NO_X Ozone Season emissions limitation for such control period in accordance with §§97.506 and 97.524.

Compliance Demonstration
The Permittee shall comply with the monitoring, recordkeeping and reporting requirements found in §97.406, §97.430, §97.431, §97.432, §97.433 and §97.434 for the NO_X Annual Trading Program and §97.506, §97.530, §97.531, §97.532, §97.533 and §97.534 for the NO_X Ozone Season Trading Program.

Emission Units: F-Aux1, F-Aux 3, and F-Aux4: Auxiliary Boilers

F-Aux1, F-Aux 3, and F-Aux4 - Three (3) Auxiliary boilers, manufactured by CE-Alstom, used for start-up steam and space heating. Auxiliary boilers are fired with No.2 fuel oil and each have a maximum rating of 164 mmBtu/hr. **[4-0015, 4-0017 & 4-0018]**

These boilers are not subject to the requirements of 40 CFR Part 60 Subpart Db-Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units since these boilers were constructed prior to the June 19, 1984 applicability date

For Boilers: Control of Particulate Matter: The requirements in Figure 1 and Figure 2 of this chapter do not apply to fuel-burning equipment burning gas or distillate oil. [COMAR 26.11.09.06A3(c)].

Applicable Standards and Limits:
A. Control of Visible Emissions
COMAR 26.11.09.05A (1) & (3) – Fuel Burning Equipment
"Areas I, II, V and VI. In Areas I, II, V and VI, 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 greater than 20 percent opacity.
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."

Compliance Demonstration

The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours of operation or at a minimum once per year.

The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity:

(a) inspect combustion control system and boiler operations,

(b) perform all necessary adjustments and/or repairs to the boiler within 48 hours of operation so that visible emissions are eliminated; and

(c) document in writing the results of inspections, adjustments and/or repairs to the auxiliary boiler.

The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily for an 18 minute period until corrective action have reduce visible emissions to less than 20 percent opacity. **[Reference: COMAR 26.11.03.06C]**

The Permittee shall maintain records of all visible emissions observations. **[Reference: COMAR 26.11.03.06C]**

The Permittee shall report exceedance of 20 percent opacity in accordance with Permit Condition 4,Section III, Plant Wide Condition, “Report of Excess Emissions and Deviations” **[Reference: COMAR 26.11.03.06C]**

B. Control of Sulfur Oxides

COMAR 26.11.09.07A(1) - Sulfur Content Limitations for Fuel.

“A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI:

(a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour;

(b) Residual fuel oils, 2.0 percent;

(c) Distillate fuel oils, 0.3 percent;

(d) Process gas used as fuel, 0.3 percent.”

Compliance Demonstration

The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C].**

The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C].**
The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C].**

Rationale for Periodic Monitoring: This strategy to certify sulfur content in oil is similar to the requirements for boilers under New Source Performance Standards.

C. Control of Nitrogen Oxides

COMAR 26.11.09.08G. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent.

"(1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
(a) Provide certification of the capacity factor of the equipment to the Department in writing;
(b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
(c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
(d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
(e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

Note: COMAR 26.11.09.08B(5)(a) states that "for the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation".

Compliance Demonstration

The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the auxiliary boiler that operates more than 500 hours during a calendar year. [**Reference: COMAR 26.11.09.08G(1)(b)]**
If the auxiliary boiler operates more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize combustion. **[Reference: COMAR 26.11.03.06C]**.
The Permittee shall maintain records of the results of the combustion analyses on site for at least five years and make them available to the Department and EPA upon request. **[Reference: COMAR 26.11.09.08G(1)(c) & COMAR**

26.11.03.06C]. The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) & COMAR 26.11.03.06C]**.
The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with support documentation in Annual Emissions certification Report. **[Reference: COMAR 26.11.03.06C].** The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C].**

COMAR 26.11.09.08K(3) – "A person subject to this regulation shall maintain annual fuel use records on site for not less than 3 years and make these records available to the Department upon request."

Emission Units: F-Aux2: Auxiliary Boilers Cont'd

F-Aux2 - Auxiliary boiler No. 2 manufactured by CE-Alstom (Model No.30VP21808R/48) is used for start-up steam and space heating. Auxiliary boiler No. 2 is fired with No.2 fuel oil and has a maximum rating of 219.3 mmBtu/hr. [**4-0191**]

Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
§60.40b - Applicability
(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour).

Applicable Standards/Limits:
A. Control of Visible Emissions
COMAR 26.11.09.05A (1) & (3) – Fuel Burning Equipment
"Areas I, II, V and VI. In Areas I, II, V and VI, 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 greater than 20 percent opacity.
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."

Compliance Demonstration

The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours of operation or at a minimum once per year.

The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity:

(a) inspect combustion control system and boiler operations,

(b) perform all necessary adjustments and/or repairs to the boiler within 48 hours of operation so that visible emissions are eliminated; and

(c) document in writing the results of inspections, adjustments and/or repairs to the auxiliary boiler.

The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily for an 18 minute period until corrective action have reduce visible emissions to less than 20 percent opacity. **[Reference: COMAR 26.11.03.06C]**

The Permittee shall maintain records of all visible emissions observations. **[Reference: COMAR 26.11.03.06C]**

The Permittee shall report exceedance of 20 percent opacity in accordance with Permit Condition 4, Section III, Plant Wide Condition, “Report of Excess Emissions and Deviations”

B. Control of Particulate Matter

§60.43b – Standard for particulate matter.

“(**f**) On and after the date on which the initial performance test is completed or is required to be completed under 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.”

“(**g**) The particulate matter and opacity standards apply at all times, except during periods of startup, shutdown or malfunction.”

§60.46b – Compliance and performance test methods and procedures for particulate matter and nitrogen oxides

“(a) The particulate matter emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction, and as specified in paragraphs (i) and (j) of this section. The nitrogen oxides emission standards under §60.44b apply at all times.”

Compliance Demonstration

§60.46b – Compliance and performance test methods and procedures for **particulate matter** and nitrogen oxides

"(b) Compliance with the particulate matter emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) and (j)."

§60.48b - Emission monitoring for **particulate matter** and nitrogen oxides.

(j) Units that burn only oil that contains no more than 0.3 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less **are not required to conduct PM emissions monitoring** if they maintain fuel supplier certifications of the sulfur content of the fuels burned.

C. Control of Sulfur Oxides

COMAR 26.11.09.07A(1) - Sulfur Content Limitations for Fuel.

"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI:

(a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour;

(b) Residual fuel oils, 2.0 percent;

(c) Distillate fuel oils, 0.3 percent;

(d) Process gas used as fuel, 0.3 percent."

Compliance Demonstration

The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C].**

The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C].**

The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C].**

---

§60.42b – Standard for sulfur dioxide.

"(**d**) On and after the date on which the performance test is completed or required to be completed under §60.8 of this part, whichever comes first, no owner or operator of an affected facility listed in paragraph (d)(1), (2), or (3) of this section shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) heat input if the

affected facility combusts coal, or 215 ng/J (0.5 lb/million Btu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under this paragraph.

(1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a Federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less;

(2) Affected facilities located in a noncontinental area; or

(3) Affected facilities combusting coal or oil, alone or in combination with any other fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of he heat input to the steam generating unit is from combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat input to the steam generating unit is from the exhaust gases entering the duct burner."

Compliance Demonstration

§60.45b – Compliance and performance test methods and procedures for sulfur dioxide.

"(**a**) The sulfur dioxide emission standards under §60.42b apply at all times."

"(**j**) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described §60.49b(r)."

§60.47b – Emission monitoring for sulfur dioxide

"(**f**) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the emission monitoring requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r)."

§60.49b – Reporting and recordkeeping requirements

"(r) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the reporting period."

D. Control of Nitrogen Oxides

COMAR 26.11.09.08G. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent.

(1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:

(a) Provide certification of the capacity factor of the equipment to the Department in writing;

(b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
(c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
(d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
(e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

Note: COMAR 26.11.09.08B(5)(a) states that "for the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation".

Compliance Demonstration
The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the auxiliary boiler that operates more than 500 hours during a calendar year. [**Reference: COMAR 26.11.09.08G(1)(b)]**.
If the auxiliary boiler operates more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize combustion. **[Reference: COMAR 26.11.03.06C]**.
The Permittee shall maintain records of the results of the combustion analyses and any stack tests on site for at least five years and make them available to the Department and EPA upon request. **[Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]**. The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) & COMAR 26.11.03.06C]**.
The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with the support documentation in the Annual Emission Certification Report. **[Reference: COMAR 26.11.03.06C].** The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C].**

§60.44b – Standard for nitrogen oxides
"(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance test for any affected facilities that: (1) Combust, alone or in combination only natural gas, **distillate oil**, or residual oil with a nitrogen content of 0.30 weight percent or less; (2) Have a combined annual capacity factor of 10 percent or less for natural gas, **distillate oil**, and residual oil

with a nitrogen content of 0.30 weight percent or less and (3) Are subject to a Federally enforceable requirement limiting operation of the affected facility to firing of natural gas, **distillate oil**, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, **distillate oil** and residual oil and a nitrogen content of 0.30 weight percent or less."

Compliance Demonstration

§60.46b – Compliance and performance test methods and procedures for particulate matter and **nitrogen oxides**

"(b) Compliance with the particulate matter emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) and (j)."

§60.48b – Emission monitoring for particulate matter and **nitrogen oxides**.

(i)"The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) is not required to install or operate a continuous monitoring system for measuring nitrogen oxides emissions."

§60.13(i) – "After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following: (2) Alternative monitoring requirements when the affected facility is infrequently operated."

§60.49b - Reporting and record keeping requirements.

(v) The owner or operator of an affected facility may submit electronic quarterly reports for SO_2 and/or NO_X and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

E. Operational Limit:

[Reference: CPCN Case No. 8949, Condition III – Operating Requirements]

(1) Operation of the auxiliary boiler shall not exceed 182,458 mmBtu in any consecutive 12-month period.

(2) Emissions from the auxiliary boiler shall not exceed the rates in the following table:

Pollutant	Maximum Short term rates (lb/mmBtu)*	Maximum Emission Rate (tons per year)
NO_X	0.30	27
SO_2	0.50	40
PM10	0.10	15

* Emissions are in pounds per million Btu on a 24-hour average basis.

Compliance Demonstration

Compliance stack testing of the auxiliary boiler shall be conducted within 180 days of initial start-up to quantify pollutant emissions and demonstrate compliance with the emissions limits specified in Condition III.2 for the following air contaminants: nitrogen oxides ("NO_X") and particulate matter less than 10 microns in diameter ("PM_{10}"). [**Reference: CPCN Case No. 8949, Condition IV (1)].** *Completed.*

At least 30 days prior to conducting any compliance stack test, the Permittee shall submit a test protocol to ARMA for review. Compliance stack testing shall be conducted in accordance with ARMA Technical Memorandum ("TM") 91-01, "Test Methods and Equipment Specifications for Stationary Sources" (January, 1991), as amended by Supplement 1 (1 July 1991), 40 CFR 51, 40 CFR 60, or subsequent test protocols approved by ARMA. Test ports shall be located in accordance with TM 91-01 (January 1991), or subsequent or alternative measures approved by ARMA. "). [**Reference: CPCN Case No. 8949, Condition IV (2)]** *Completed.*

Testing shall be performed when operating at a minimum of 90 percent of the design load. If testing cannot be performed at the minimum load, then the actual load during testing shall become the allowable permitted load unless and until testing is performed while operating at a minimum of 90 percent of the design load. "). [**Reference: CPCN Case No. 8949, Condition IV (3)].** *Completed.*

In accordance with COMAR 26.11.01.04A, NRG may be required to conduct additional stack tests at any time as may be prescribed by ARMA. [**Reference: CPCN Case No. 8949, Condition IV (4)]**

Final results of each compliance stack test must be submitted to ARMA within 60 days of completion of the test. Analytical data shall be submitted to ARMA directly from the emission testing company. . [**Reference: CPCN Case No. 8949, Condition IV (5)].** *Completed.*

The Permittee shall calculate the monthly mmBtu over the previous 12-month period for the auxiliary boiler to maintain compliance with the 182,458-mmBtu limit. **[Reference: COMAR 26.11.03.06C]**

The Permittee shall maintain records of the higher heating value of each shipment of fuel. **[Reference: CPCN Case No. 8949, Condition V (1)]**

§60.49b – Reporting and record keeping requirements.
"(**a**) The owner or operator of each affected facility shall submit notification of the date of initial startup as provided by §60.7." *Completed.*
"(**d**) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month."
"(**f**) For facilities subject to the opacity standard under §60.43b, the owner or operator shall maintain records of opacity."
"(**h**) The owner or operator of any affected facility in any category listed in paragraphs (h) (1) or (2) of this section is required to submit excess emissions reports for any excess emissions which occurred during the reporting period."
"(**j**) The owner or operator of any affected facility subject to the sulfur dioxide standards under §60.42b shall submit reports."
"(**o**) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record."
"(**r**) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the reporting period."
"(**w**) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period."

Emissions Units : F-Aux1, F-Aux2 F-Aux 3, and F-Aux4: Auxiliary Boilers Cont'd

F-Aux1, F-Aux 3, and F-Aux4 - Three (3) Auxiliary boilers, manufactured by CE-Alstom, used for start-up steam and space heating. **[4-0015, 4-0017 & 4-0018]**

F-Aux2 - Auxiliary boiler No. 2 manufactured by CE-Alstom (Model No. 30VP21808R/48) is used for start-up steam and space heating. [**4-0191**]

The Permittee requested that the auxiliary boilers be defined as limited use boilers to comply with this MACT. Morgantown Generating Station will accept a 10% capacity factor restriction for F-Aux1, F-Aux3 and F-Aux4 boilers by incorporating this restriction in it new Title V operating permit. (Per email dated

July 11, 2013 – NRG Morgantown Draft Title V Permit Fact Sheet Comments 7/11/2013)
F-Aux2 boiler has a 10% capacity factor restriction on its operation stated in CPCN Case No. 8949, Condition III – Operating Requirements.
See Operational Limits.

Compliance Status
On April 16, 2009, the Permittee submitted a Part 1 Application for the Industrial Boiler MACT DDDDD for the Auxiliary Boilers.

Applicable Standards and Limits:
Control of HAPs Emissions
40 CFR Part 63, Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters
§63.7485 - Am I subject to this subpart?
You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP, except as specified in §63.7491. For purposes of this subpart, a major source of HAP is as defined in §63.2, except that for oil and natural gas production facilities, a major source of HAP is as defined in §63.7575.

§63.7495 - When do I have to comply with this subpart?
"(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by January 31, 2013, or upon startup of your boiler or process heater, whichever is later.
(b) If you have an **existing boiler** or process heater, you must comply with this subpart no later than **January 31, 2016**, except as provided in §63.6(i)."
"(d) You must meet the notification requirements in §63.7545 according to the schedule in §63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart."
"(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 to this subpart."

§63.7500 - What emission limitations, work practice standards, and operating limits must I meet?
"(c) Limited-use boilers and process heaters must complete a tune-up every 5 years as specified in §63.7540. They are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, the annual tune-up, or the energy assessment requirements in Table 3 to this subpart, or the operating limits in Table 4 to this subpart."

"(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 to this subpart."

Table 3 to Subpart DDDDD of Part 63—Work Practice Standards
As stated in §63.7500, you must comply with the following applicable work practice standards:

If your unit is . . .	You must meet the following . . .
1. A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or **a limited use boiler** or process heater	Conduct a tune-up of the boiler or process heater every 5 years as specified in §63.7540.

Limited-use boiler *or process heater* means any boiler or process heater that burns any amount of solid, liquid, or gaseous fuels and has a federally enforceable average annual capacity factor of no more than 10 percent. [§63.7575]

General Compliance Requirements

§63.7505 - What are my general requirements for complying with this subpart?

"(a) You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These limits apply to you at all times the affected unit is operating except for the periods noted in §63.7500(f)."

Operational Limits

[Reference: §63.12]

F-Aux1, F-Aux 3, and F-Aux4: Auxiliary Boilers 1, 3, & 4 operations shall be limited to an annual capacity factor of 10 percent or less or an annual heat input of not greater than 143,664 million Btu.

F-Aux2: Auxiliary Boiler 2 operation shall be limited to an annual capacity factor of 10 percent or less or an annual heat input of not greater than 182,458 million Btu.

These units shall be defined as limit use boilers as defined in §63.7500(c) & §63.7575.

Compliance Demonstration

Continuous Compliance Requirements

§63.7540 - How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?

"(a) You must demonstrate continuous compliance with each emission limit in Tables 1 and 2 or 11 through 13 to this subpart, the work practice standards in Table 3 to this subpart, and the operating limits in Table 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (19) of this section."

"(10) If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process

heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. This frequency does not apply to limited-use boilers and process heaters, as defined in §63.7575 or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.
(i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
(ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
(iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;
(iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject;
(v) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and
(vi) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section,
(A) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
(B) A description of any corrective actions taken as a part of the tune-up; and
(C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit."

"(12) If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or **meets the definition of limited-use boiler or process heater**

in §63.7575, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months."

"(13) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup."

§63.7555 - What records must I keep?
"(a) You must keep records according to paragraphs (a)(1) and (2) of this section.
(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv).
(2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii)."

§63.7560 - In what form and how long must I keep my records?
"(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1).
(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.
(c) You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years."

§63.7545 - What notifications must I submit and when?
"(a) You must submit to the Administrator all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified.
(b) As specified in §63.9(b)(2), if you startup your affected source before January 31, 2013, **you must submit an Initial Notification not later than 120 days after January 31, 2013.** *Completed.*
(c) As specified in §63.9(b)(4) and (5), if you startup your new or reconstructed affected source on or after January 31, 2013, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.
(d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.

(e) If you are required to conduct an initial compliance demonstration as specified in §63.7530, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to §63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8), as applicable. If you are not required to conduct an initial compliance demonstration as specified in §63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8)."

§63.7550 - <u>What reports must I submit and when?</u>
"(a) You must submit each report in Table 9 to this subpart that applies to you.
(b) Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report, according to paragraph (h) of this section, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report.
(1) The first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on July 31 or January 31, whichever date is the first date that occurs at least 180 days (or 1, 2, or 5 years, as applicable, if submitting an annual, biennial, or 5-year compliance report) after the compliance date that is specified for your source in §63.7495.
(2) The first compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in §63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31.
(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31.
(4) Each subsequent compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31.

(c) A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule.
(1) If the facility is subject to a the requirements of a tune up they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv) and (xiv) of this section.
(2) If a facility is complying with the fuel analysis they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv), (vi), (x), (xi), (xiii), (xv) and paragraph (d) of this section.
(3) If a facility is complying with the applicable emissions limit with performance testing they must submit a compliance report with the information in (c)(5)(i) through (iv), (vi), (vii), (ix), (xi), (xiii), (xv) and paragraph (d) of this section.
(4) If a facility is complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (vi), (xi), (xiii), (xv) through (xvii), and paragraph (e) of this section.
(5)(i) Company and Facility name and address.
(ii) Process unit information, emissions limitations, and operating parameter limitations.
(iii) Date of report and beginning and ending dates of the reporting period.
(iv) The total operating time during the reporting period.
(v) If you use a CMS, including CEMS, COMS, or CPMS, you must include the monitoring equipment manufacturer(s) and model numbers and the date of the last CMS certification or audit.
(vi) The total fuel use by each individual boiler or process heater subject to an emission limit within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure.
(vii) If you are conducting performance tests once every 3 years consistent with §63.7515(b) or (c), the date of the last 2 performance tests and a statement as to whether there have been any operational changes since the last performance test that could increase emissions.
(viii) A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, you must submit the calculation of chlorine input, using Equation 7 of §63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 12 of §63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of §63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through

performance testing), or you must submit the calculation of mercury emission rate using Equation 13 of §63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of §63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate, using Equation 14 of §63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

(ix) If you wish to burn a new type of fuel in an individual boiler or process heater subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of §63.7530 or the maximum mercury input operating limit using Equation 8 of §63.7530, or the maximum TSM input operating limit using Equation 9 of §63.7530 you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.

(x) A summary of any monthly fuel analyses conducted to demonstrate compliance according to §§63.7521 and 63.7530 for individual boilers or process heaters subject to emission limits, and any fuel specification analyses conducted according to §§63.7521(f) and 63.7530(g).

(xi) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period.

(xii) If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in §63.8(c)(7), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period.

(xiii) If a malfunction occurred during the reporting period, the report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with §63.7500(a)(3), including actions taken to correct the malfunction.

(xiv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.

(xv) If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent

than the level or control technology contained in the notification of compliance status in §63.7545(e)(5)(i).
(xvi) For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values based on the daily CEMS (CO and mercury) and CPMS (PM CPMS output, scrubber pH, scrubber liquid flow rate, scrubber pressure drop) data.
(xvii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
(d) For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section.
(1) A description of the deviation and which emission limit or operating limit from which you deviated.
(2) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.
(3) If the deviation occurred during an annual performance test, provide the date the annual performance test was completed.
(e) For each deviation from an emission limit, operating limit, and monitoring requirement in this subpart occurring at an individual boiler or process heater where you are using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (e)(1) through (9) of this section. This includes any deviations from your site-specific monitoring plan as required in §63.7505(d).
(1) The date and time that each deviation started and stopped and description of the nature of the deviation (i.e., what you deviated from).
(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.
(3) The date, time, and duration that each CMS was out of control, including the information in §63.8(c)(8).
(4) The date and time that each deviation started and stopped.
(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.
(6) A characterization of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.
(7) A summary of the total duration of CMS's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.
(8) A brief description of the source for which there was a deviation.
(9) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.

(f)-(g) [Reserved]
(h) You must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this section.
(1) Within 60 days after the date of completing each performance test (defined in §63.2) as required by this subpart you must submit the results of the performance tests, including any associated fuel analyses, required by this subpart and the compliance reports required in §63.7550(b) to the EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of the EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to the EPA via CDX as described earlier in this paragraph. At the discretion of the Administrator, you must also submit these reports, including the confidential business information, to the Administrator in the format specified by the Administrator. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator.
(2) Within 60 days after the date of completing each CEMS performance evaluation test (defined in 63.2) you must submit the relative accuracy test audit (RATA) data to the EPA's Central Data Exchange by using CEDRI as mentioned in paragraph (h)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator.
(3) You must submit all reports required by Table 9 of this subpart electronically using CEDRI that is accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due the report you must submit the report to the Administrator at the appropriate address listed in § 63.13. At the discretion of the Administrator, you must also submit these reports, to the Administrator in the format specified by the Administrator."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

Emissions Units: Coal Barge Unloader

The barge loading facility consists of a dock, barge unloader, a transfer and distribution system and a railcar loading facility. The barge unloader system is sized to unload up to 5.0 million tons of coal per year. The barge unloader's transfer and distribution system is integrated into Morgantown's existing coal handling system. (**6-0138, (CPCN 9031)**)

Compliance Status
On March 21 to 25, 2009 during the 1st barge unloading operation after reaching maximum capacity, visible emissions (VE) performance testing was conducted by Golder Associates. The VE test was conducted within 180-days from initial start-up of the barge unloading operation- in accordance with condition #14 of the CPCN. No VE greater than 2.08% opacity was observed, which is in compliance with the 20% opacity limit.

Applicable Standards and Limits:

A. Control of Visible Emissions

New Source Performance Standards (NSPS) 40 CFR 60 Subpart Y—Standards of Performance for Coal Preparation Plant (**40 CFR §60.250**) (and the associated notification and testing requirements of 40 CFR §60.7, §60.8 and §60.11) which requirements include: (a) NRG shall not cause to be discharged into the atmosphere gases from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system being constructed or modified by the Barge Unloading project which exhibit 20 percent opacity or greater (under 40 CFR §60.252(c)). Specifically, equipment that makes up the modified facilities includes: (1) Mechanical barge unloader; (2) Four conveyor transfer points; (3) Transfer point to rail car loading station; (4) Railcar loading station; and (5) Breaker building.
(b) The opacity standards shall apply at all times except during periods of startup, shutdown, or malfunction;
(c) At all times, including during periods of startup, shutdown and malfunction, NRG shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions.
[Reference: CPCN 9031, condition 10]

Compliance Demonstration

Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the coal barge unloading project, NRG shall conduct performance tests in accordance with the methods in NRG's ARMA-approved Performance Test Plan and furnished ARMA and EPA with a written report of the results of such performance test(s). **[Reference: CPCN 9031, condition 14]** ***(Completed)***

NRG shall perform a monthly inspection of the coal unloading and handling operations to verify that the reasonable precautions (BMPs) in Condition 12 of the CPCN are being implemented. Visible emission or deviations identified during the inspections shall be promptly corrected. [**Reference: CPCN 9031, condition 15]**

NRG shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the coal unloading and handling facilities and any malfunction of its associated air pollution control equipment (40CFR 60.7(b). [**Reference: CPCN 9031, condition 18]**

Within 60 days of the initial startup date, NRG shall provide ARMA a Performance Test Plan that describes the proposed method for conducting the initial performance test that will demonstrate compliance with 40CFR 60.252 opacity standards for the affected facilities. The Test Plan shall comply with the requirements of §60.8 and §60.11, as they relate to performing opacity observations. [**Reference: CPCN 9031, condition 13] *(Completed)***

All notifications and reports required by 40 CFR 60 and Subpart Y, unless specified otherwise, shall be submitted to:

Regional Administrator
US Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

[**Reference: CPCN 9031, condition 22]**

NRG shall furnish written notification to ARMA and US EPA of the following events:

a) The date constructions is commenced postmarked no later than 30 days after such date; ***(Completed)***
b) The anticipated startup date, not more than 60 or less than 30 days prior to such date; ***(Completed)***
c) The actual date of initial startup postmarked with in 15 days after such date; ***(Completed)***
d) Notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applied postmarked 60 days or as soon as practicable before the change has commenced; and
e) The anticipated date for conducting the initial opacity observations (performance tests) postmarked not less than 30 days prior to such date. ***(Completed)***

[Reference: CPCN 9031, condition 19]

B. Control of Particulate Matter

COMAR 26.11.06.03D. - Particulate Matter from Materials Handling and Construction. Prohibits NRG from causing or permitting any material to be

handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For the coal piles, unloading, transfer, and loading operation at NRG's Coal Barge Unloading Project, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer:
(1) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces, which can create airborne dusts.
(2) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials.
(3) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution
[Reference: CPCN 9031, condition 9c]

Compliance Demonstration
NRG shall maintain and operate the following barge unloading equipment and its associated particulate matter control mechanisms with the potential to cause air pollution in accordance with original design criteria, vendor recommendations, and best management practices and in such a manner as to ensure full and continuous compliance with all applicable regulations:

Equipment	Control Mechanism
Barge Unloader	Telescoping Unloader
Conveyors	Covers or Enclosures
Transfer Towers	Enclosure
Railcar Transfer Point and Load out Station	Partial Enclosure

[**Reference: CPCN 9031, condition 12a]**

NRG shall develop a coal handling best management practices (BMP) Plan for the coal barge unloader, associated conveyor system and railcar load out station to ensure that reasonable precautions will be used to prevent particulate matter from the coal barge unloading project equipment from becoming airborne. BMP's shall include, but are not limited to minimizing the area of permanent openings, using curtains at permanent openings, where feasible, and keeping doorways or other temporary openings closed when not in use. **[Reference: CPCN 9031, condition 12b]**
NRG shall maintain the written reasonable precautions (BMPs) at the facility. [**Reference: CPCN 9031, condition 16]**

NRG shall keep written records of monthly inspections and maintenance performed under Condition 12 of the CPCN for the purposes of minimizing particulate matter emissions. Records shall include descriptions of the results of the inspection and maintenance, and any deviations and actions taken to address any noted deviations. [**Reference: CPCN 9031, condition 17]**

All records and logs required by this CPCN shall be maintained at the facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of ARMA. [**Reference: CPCN 9031, condition 20]**
Written records of monthly inspections and maintenance performed under Condition 12 of the CPCN for the purposes of minimizing particulate matter emissions shall be made available to the Department upon request. **[Reference: COMAR 26.11.06.06C**]

All air quality notifications and reports required by this CPCN shall be submitted to:

Administrator, Compliance Program
Air and Radiation Management Administration
1800 Washington Boulevard
Baltimore, Maryland 21230

[Reference: CPCN 9031, condition 21]

Emissions Units: Coal Blending System & Gypsum Barge Unloading System

The coal blending system is designed to blend various coals with different characteristics to match the specification of the Morgantown's boilers and air quality control equipment. The coal blending system consists of the following subsystems: new stack-out facilities in the south coal yard; underground reclaim facilities in existing south and north coal yards; reclaim transfer point to integrate the reclaim from the north and south coal yards; refurbished and upgraded emergency reclaim; and enclosed transfer station with dust suppression system.**[(017-0014-6-0154), (CPCN 9148)]**

The Gypsum Barge Loading System is to convey and load gypsum produced by both the Chalk Point and Morgantown SO_2 FGD systems. The Gypsum Barge Loading System consists of the following subsystems: 1000-tph conveyor system; five transfer towers, one pier tripper conveyor, one telescoping barge load-out conveyor and rail unloading hopper and conveyor for chalk Point gypsum transfer**.[(017-0014-6-0153),(CPCN 9148)]**

Compliance Status
NRG commenced operation of the north yard of the coal blending facility (CPCN #9148) on April 27, 2010 and the south yard on December 17, 2010.
The BMP Plan and visible emission observation performance test plan were received on October 7, 2010.
The initial start-up date for the Gypsum Barge Loading system was December 30, 2009.

Applicable Standards and Limits:

Control of Particulate Matter

COMAR 26.11.06.03D. - Particulate Matter from Materials Handling and Construction. Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For activities associated with NRG's Coal Blending/Gypsum Load out Project, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer:

(1) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;

(2) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces, which can create airborne dusts.

(3) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials.

(4) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution

[Reference: CPCN 9148, condition 11]

Compliance Demonstration

NRG shall update Morgantown's Best Management Practices (BMP) Plan as required by the facility's Part 70 Operating Permit (Permit No. 24-017-00014), to include the equipment and material handling processes associated with the Project. The Plan shall document what reasonable precautions will be used to prevent particulate matter from project equipment and material handling processes from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. MDE-ARMA shall approve the BMP Plan prior to implementation. **[Reference: CPCN 9148, condition 14].** ***(Completed)***

NRG shall maintain the written records of inspections, testing and monitoring results, and maintenance performed on Project emissions sources for the purposes of minimizing particulate matter emissions and demonstrating that coal blending/gypsum load out operations are meeting the approved BMP Plan. Records shall include description of the result of any inspection and maintenance. [**Reference: CPCN 9148, condition 15]**

All records and logs required by CPCN 9148 shall be maintained at the facility for at least five years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of MDE-ARMA. [**Reference: CPCN 9148, condition 17]**

Written records of inspections and maintenance performed under Condition 14 of the CPCN for the purposes of minimizing particulate matter emissions shall be made available to the Department upon request. **[Reference: COMAR 26.11.06.06C**]

All air quality notifications and reports required by this CPCN shall be submitted to:

Administrator, Compliance Program
Air and Radiation Management Administration
1800 Washington Boulevard
Baltimore, Maryland 21230

[Reference: CPCN 9148, condition 18]

Emissions Units: STAR

The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization (FGD) scrubber system. Exhaust gases are directed through a 125 foot stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems. (**6-0150 (CPCN 9229)**)

Compliance Status

On January 4, 2012, NRG commenced operation of the new fly ash processing facility (Staged Turbulent Air Reactor or STAR) (CPCN #9229) to comply with Maryland's Coal Combustion By-Products Regulation.

On June 2-3, 2014, NRG performed a particulate matter, PM condensable, and mercury stack test on the STAR process. EPA Test Methods 5, 202 and 30B were performed respectively. During the test, the STAR process was feeding 28 tph of fly ash.
The results of the stack test were:

Particulate Matter-	0.012 gr/dscf (standard – 0.05 gr/dscf) or 0.0042 lb/MMBtu or 0.28 lb/hr
PM Condensable-	0.0035 gr/dscf
Mercury-	1.12-07 lb/MMBtu
Visible Emissions-	2.5% opacity

The results of the test show compliance with the particulate matter standard found under COMAR 26.11.06.03B and the opacity standard found under COMAR 26.11.06.02C.

On April 30, 2015 MDE received NRG's 1st quarter 2015 STAR process CEM Report required by CPCN Case #9229. The report also shows that the STAR process is complying with the limits and requirements of the CPCN.
The results are as follows: NO_X, SO_2, and CO –

- no exceedances of their 12-month rolling PSD limits and no exceedance of their SO_2 500 ppm 24-hour block average limit.
- CEM down time was reported as follows: NO_X – 0.6%, SO_2 – 1.0%, and CO-0.4%
- Monthly and 12-month rolling Hg emissions were calculated using an MDE approved algorithm and reported in the quarterly report. For the 1st quarter 2015, the three (3) 12-month rolling calculated Hg emissions periods are: (12-month period ending: January – 0.86 lbs, February – 0.089 lbs, March – 0.082 lbs. The 12-month rolling Hg limit (per the CPCN #9229) is 5 lbs Hg/12-month rolling period. The STAR facility is in compliance with the Hg limit.

Applicable Standards and Limits:
[Reference: CPCN 9229 – Emissions and Operational Requirements]
A. Control of Visible Emissions
A-7(c) *Visible Emission from General Sources.* – Prohibits NRG from causing or permitting the discharge of emissions from any installation or building, other than water in an uncombined form, which is greater than 20 percent opacity [COMAR 26.11.06.02C].

Compliance Demonstration
The Permittee shall conduct visible emission observations using EPA Method 9 during the annual stack testing of stationary sources**. [Reference: CPCN 9229, condition A-16(c)]**
The Permittee shall visually inspect the exhaust gases from baghouse for visible emissions once a month for an 18-minute period and shall record the results of each observation. If visible emissions are observed, the Permittee shall perform the following:
(a) Inspect all process and/or control equipment that may affect visible emissions;
(b) Perform all necessary repairs and/or adjustments to all processes and/or control equipment within 48 hours so that visible emissions in the exhaust gases are eliminated;
(c) Document in writing the results if the inspections and the repairs and/or adjustments made to the processes and/or control equipment; and
(d) If visible emissions have not been eliminated within 48 hours, the Permittee shall perform a Method 9 observation once daily for an 18-minute period until the opacity standard of 20 percent is achieved.
[**Reference: COMAR 26.11.03.06C**].
The Permittee shall maintain on site for at least five (5) years records of the visible emission observations completed during the annual stack testing of the stationary sources. **[Reference: CPCN 9229 condition A-31]**
The Permittee shall submit to the Department within 60 days after completion of the stack test the results of the visible emission observations taken during the annual stack testing of the stationary sources. **[Reference: CPCN 9229 condition A-26]**

B. Control of Particulate Matter Emissions

A-7(d) *Particulate Matter from Confined Sources*. – Prohibits NRG from causing or permitting the discharge into the outdoor atmosphere from any confined source of particulate matter in excess of 0.05 grains per dry standard cubic feet (gr/dscf) or 114 milligrams per dry standard cubic meter (mg/dscm) [COMAR 26.11.06.03B].

A-7(e) *Particulate Matter from Unconfined Sources*. – Prohibits NRG from causing or permitting the discharge of emissions from an unconfined source without taking reasonable precautions to prevent particulate matter from becoming airborne [COMAR 26.11.06.03C].

A-7(f) *Particulate Matter from Materials Handling and Construction*. – Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For the unloading, loading and transfer of the materials included at the Morgantown STAR Facility, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer:
(1) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land.
(2) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts.
(3) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations.
(4) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution [COMAR 26.11.06.03D].

Compliance Demonstration

From Confined Source: The Permittee shall perform annual stack testing to demonstrate compliance with PM emission limit in the exhaust gases of the stack of the stationary sources. **[Reference: COMAR 26.11.03.06C]**

From Unconfined Source: **[Reference: CPCN 9229 – Best Management Practice Requirements]**

A-33. NRG shall update Morgantown's Best Management Practices (BMP) Plan as required by the facility's Part 70 Operating Permit (Permit No. 24-017-00014), to include the STAR Facility ash beneficiation process and associated control equipment and material handling processes associated with the project. The Plan shall document what reasonable precautions will be used to prevent PM from project equipment and material handling processes from becoming

airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. MDE-ARMA shall approve the BMP Plan prior to implementation [COMAR 26.11.02.02H]. *Completed.*

The Permittee shall maintain records of the annual stack testing results on site for at least 5 years and make available to the Department upon request. **[Reference: COMAR 26.11.03.06C].**

[Reference: CPCN 9229 – Best Management Practice Requirements]

A-34. NRG shall keep written records of inspections, testing and monitoring results and maintenance performed on the Morgantown STAR Facility emissions sources for the purpose of minimizing PM emissions and demonstrating that the project operations are meeting the approved BMP Plan. Records shall include descriptions of the result of any inspection and maintenance [COMAR 26.11.02.02H].

The Permittee shall make available to the Department upon request records of the result of any inspection and maintenance activity performed. **[Reference: COMAR 26.11.03.06C]**

C. Control of Sulfur Oxides Emissions

A-7(g) *Sulfur Dioxide Emissions from General Sources*. – Prohibits NRG from causing or permitting the discharge of emissions in the atmosphere gases containing more than 500 ppm of SO_2 during any 24-hour block average of hourly arithmetic CEMS concentrations [COMAR 26.11.06.05B(1)]

A-7(h) *Sulfuric Acid Emissions from General Sources*. - Prohibits NRG from causing or permitting the discharge of emissions in the atmosphere gases containing sulfuric acid, sulfur trioxide, or any combination of them greater than 35 milligrams per cubic meter of emissions of gases reported as sulfuric acid [COMAR 26.11.06.05B(2)]

Compliance Demonstration

See Operational Limits

D. Control of VOC Emissions

A-7(i) *VOC Emissions from General Sources*. – Prohibits NRG from causing or permitting the discharge of VOC emissions from any installation in excess of 20 lb/day unless the discharge is reduced by 85 percent or more overall [COMAR 26.11.06.06B(2)(c)].

Compliance Demonstration

See Best Management Plan Requirements listed under Control of Particulate Emissions

E. Operational Limits

A-8. Annual emissions from the Morgantown STAR Facility shall be less than the following in any consecutive 12-month period, rolling monthly, inclusive of emissions during periods of startup, shutdown and malfunction:

Pollutant	**Emissions Limit for Entire Morgantown STAR Facility (Tons per year)**
Sulfur Dioxide (SO_2)	40
Nitrogen Oxides (NO_X)	25
Carbon Monoxide (CO)	100
SO_2 or NO_X as a Particulate Matter less than 2.5 microns ($PM_{2.5}$) precursor	40

These federally enforceable limits are necessary for the Morgantown STAR Facility project to avoid triggering major modification requirements under Nonattainment New Source Review (NA-NSR) and Prevention of Significant Deterioration (PSD).

A-9. NRG shall install, maintain, and operate the Morgantown STAR Facility equipment inclusive of the fabric filter baghouse and wet FGD scrubber system air pollution control technologies, in accordance with the original design criteria, vendor recommendations and best management practices, and in such a manner to ensure full and continuous compliance with all applicable requirements. The baghouse and wet FGD scrubber shall be in place and operational whenever the STAR process reactor is running [COMAR 26.11.02.02H].

A-10. NRG is only permitted to process fly ash at the STAR Facility obtained from Morgantown, Chalk Point, and Dickerson Generating Stations [COMAR 26.11.02.02H].

A-11. The Morgantown STAR Facility shall not exceed an annual throughput of 360,000 tons of fly ash in any consecutive 12-month period, rolling monthly [COMAR 26.11.02.02H].

A-12. NRG is only permitted to use propane as an auxiliary fuel [COMAR 26.11.02.02H].

Compliance Demonstration

[Reference: CPCN 9229 – Testing and Monitoring Requirements]

A-13. To demonstrate continuous compliance with the federally enforceable emissions limits set forth in Condition A-8, NRG shall install, maintain, and

operate a continuous emissions monitoring system (CEMS) for SO_2, NO_X, CO and CO_2 or O_2 for emissions from the STAR process reactor through the exhaust stack in accordance with a CEMS Monitoring Plan approved by MDE-ARMA [COMAR 26.11.02.02H].

A-14. In accordance with operation of the CEMS, the Morgantown STAR Facility is subject to the following requirements:

a) Except as otherwise approved by the MDE-ARMA, if NRG is unable to obtain emissions data from CEMS because of a malfunction of the CEMS for more than 2 hours in duration, NRG shall use the alternative measurement method approved by MDE-ARMA;
b) The CEMS shall meet the quality assurance criteria of 40 CFR Part 60, Appendix F, as amended, which is incorporated by reference, or if applicable, the quality assurance criteria of 40 CFR 75, Appendix B, as amended;
c) Mass emission rates of NO_X, SO_2 and CO in pounds per hour (lb/hr), and heat input in million Btu per hour (MMBtu/hr) or million Btu per day (MMBtu/day) shall be calculated using the equations and emissions factors presented in 40 CFR Part 75, Appendix F;
d) As part of the emission calculation determination using 40 CFR Part 75, Appendix F, NRG shall obtain a site-specific F-factor (representing a ratio of volume of dry flue gases generated to the calorific value of the fuel combusted or a ratio of the volume of CO_2 generated to the calorific value of the fuel combusted). The site-specific F-factor shall be determined annually in accordance with the methodology on 40 CFR Part 75, Appendix F.
e) The CEMS shall record not less than four equally spaced data points per hour and automatically reduce data in terms of averaging times consistent with the applicable emission standard; and
f) The use of CEMS for enforcement purposes shall be as specified in MDE-ARMA's Technical Memorandum 90-01 "Continuous Emissions Monitoring (CEMS) Policies and Procedures," which is incorporated by reference [COMAR 26.11.02.02H]

A-18. NRG shall maintain a log of maintenance performed on the STAR process baghouse and wet FGD scrubber. The log of maintenance performed shall include record of dates, a description of the maintenance activity performed, a description of the reason for the maintenance activity (e.g. specific failure, routine) and other corrective actions taken to bring the control equipment into proper operation, if necessary. NRG shall make maintenance records available to MDE-ARMA upon request [COMAR 26.11.02.02H]

A-19. NRG shall maintain a record of the STAR Facility fly ash and propane gas monthly throughput and annual throughput based on consecutive 12-month period, rolling monthly. NRG shall make such records available to MDE-ARMA upon request. Fly ash throughput records shall indicate the original source and date of receipt of the fly ash [COMAR 26.11.02.02H].

A-20. NRG shall maintain fuel usage, pollutant concentrations, volumetric flow rates, and any other records necessary to determine the STAR Facility SO_2, NO_X, and CO actual emissions. Emission shall be calculated monthly and

annually based on a consecutive 12-month period, rolling monthly for comparison with the annual emission limits in Condition A-8 [COMAR 26.11.02.02H].

A-21. NRG shall maintain on file the following information related to the CEMS and make such records available to MDE-ARMA upon request:

(a) CEMS or monitoring device performance testing measurements, including but not limited to volumetric flow rates, concentrations, and fuel emissions factors;

(b) CEMS performance evaluations and data accuracy audit reports;

(c) CEMS calibration checks;

(d) Adjustments and maintenance performed on the CEMS;

(e) Fuel sampling records required for CEMS calculations; and

(f) All other data relevant to maintaining compliance with the emissions limits [COMAR 26.11.02.02H]

A-27. NRG shall submit a quarterly monitoring report to MDE-ARMA, postmarked by the 30th day following the end of each calendar quarter that includes the following information for the STAR Facility:

(a) All instances of deviations from permit requirements;

(b) Separately the date, time and duration of each startup, shutdown and malfunction that occurred at the STAR Facility including, but not limited to the ash beneficiation process and associated air pollution control systems. The report shall include total monthly and consecutive 12-month total hours of startup, shutdown and malfunction of the STAR Facility equipment;

(c) The downtime or malfunction of the CEMS equipment. The report shall include the date and time of each period during which the CEMS was inoperative and the nature of monitoring system repairs or adjustments completed;

(d) The STAR Facility monthly hours of operations and annual hours of operation based on a consecutive 12-month period, rolling monthly;

(e) The propane gas monthly usage and annual usage based on a consecutive 12-month period, rolling monthly; and

(f) The annual emissions of SO_2, NO_X and CO for the STAR Facility based on a consecutive 12-motnh period, rolling monthly. An algorithm, including example calculations and emission factors, explaining the method used to determine emission rates shall be included in the initial quarterly monitoring report. Subsequent submittals of the algorithm and sample calculations are only required if NRG changes the method of calculating emissions or changes emissions factors, or if requested by MDE-ARMA [COMAR 26.11.02.02H].

A-28. NRG shall comply with the following conditions for occurrences of excess emission and deviations from the requirements of this permit:

(a) Report any deviation from permit requirements that could endanger human health or environment, by orally notifying MDE-ARMA immediately upon discovery of deviation [COMAR 26.11.01.07C].

(b) Promptly report occurrences of excess emissions, inclusive of periods of start-up and shutdown, expected to last for one hour or longer by orally notifying MDE-ARMA of the onset and termination of the occurrences [COMAR 26.11.01.07C(1)]

(c) When requested by MDE-ARMA, NRG shall report all deviations from permit conditions, including those attributable to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to MDE-ARMA. The written report must include the cause, dates and times of the onset and termination of the deviation, as well as the action planned or taken to reduce, eliminate and prevent the recurrence of the deviation [COMAR 26.11.02.02H]

(d) When requested by MDE-ARMA, NRG shall submit a written report to MDE-ARMA within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.7C(2) [COMAR 26.11.01.07D(1)].

A-30. NRG shall monitor and report actual greenhouse gas (GHG) emissions in accordance with 40 CFR Part 98. Reporting is required to begin for actual GHG emissions that are generated in the calendar year in which the facility begins operation, with the report submitted electronically to EPA by 31 March of the following year and annually thereafter [40 CFR Part 98].

A-31. All records and logs required by this CPCN shall be maintained by NRG at the Morgantown STAR Facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of MDE-ARMA.

A-32. All air quality notifications and reports required by this CPCN shall be submitted to [COMAR 26.11.01.05]:

Program Manager
Air Quality Compliance Program
Maryland Department of the Environment
1800 Washington Boulevard, Suite 715
Baltimore, Maryland 21230

COMPLIANCE SCHEDULE

Morgantown Generating Station is currently in compliance with all applicable air quality regulations.

TITLE IV – ACID RAIN

Morgantown Generating Station is subject to the Acid Rain Program requirements. The Phase II Acid Rain Permit renewal will be issued in conjunction with this Part 70 permit.

TITLE VI – OZONE DEPLETING SUBSTANCES

The Permittee shall comply with the standards for recycling and emission reductions pursuant to 40 CFR Part 82, Subpart F.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

SECTION 112(r) – ACCIDENTAL RELEASE

Morgantown Generating Station is not subject to the requirements of Section 112 (r) of the Clean Air Act.

PERMIT SHIELD

The Morgantown Generating Station facility requested that a permit shield be expressly included in the Permittee's Part 70 permit. Permit shields are granted on an emission unit by emission unit basis. If an emission unit is covered by a permit shield, a permit shield statement will follow the emission unit table in Section IV - Plant Specific Conditions of the permit. In this case, a permit shield was granted for each emission unit covered by the permit.

INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

(1) No. 6 Stationary internal combustion engines with an output less than 500 brake horsepower (373 kilowatts) and which are not used to generate electricity for sale or for peak or load shaving;

These *affected units* are subject to the following requirements:

(A) COMAR 26.11.09.05E(2), Emissions During Idle Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.

(B) COMAR 26.11.09.05E(3), Emissions During Operating Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.

(C) Exceptions:

(i) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

(ii) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(a) Engines that are idled continuously when not in service: 30 minutes
(b) all other engines: 15 minutes.

(iii) COMAR 26.11.09.05E(2) & (3) do not apply while maintenance, repair or testing is being performed by qualified mechanics.

(D) COMAR 26.11.36.03A(1), which establishes that the Permittee may not operate an emergency generator except for emergencies, testing and maintenance purposes.

(E) COMAR 26.11.36.03A(5), which establishes that the Permittee may not operate an emergency generator for testing and engine maintenance purposes between 12:01 a.m. and 2:00 p.m. on any day on which the Department forecasts that the air quality will be a code orange, code red, or code purple unless the engine fails a test and engine maintenance and a re-test are necessary.

(2) No. 3 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

These *affected units* are subject to COMAR 26.11.19.09D, which requires that the Permittee control emissions of volatile organic compounds (VOC) from cold degreasing operations by meeting the following requirements:

(a) COMAR 26.11.19.09D(2)(b), which establishes that the Permittee shall not use any VOC degreasing material that exceeds a vapor pressure of 1 mm Hg at 20°C;

(b) COMAR 26.11.19.09D(3)(a—d), which requires that the Permittee implement good operating practices designed to minimize spills and evaporation of VOC degreasing material. These practices, which shall be established in writing and displayed such that they are clearly visible to operators, shall include covers (including water covers), lids, or other methods of minimizing evaporative losses, and reducing the time and frequency during which parts are cleaned;

(c) COMAR 26.11.19.09D(4), which prohibits the use of any halogenated VOC for cold degreasing.

The Permittee shall maintain on site for at least five (5) years, and shall make available to the Department upon request, the following records of operating data:

(a) Monthly records of the total VOC degreasing materials used; and

(b) Written descriptions of good operating practices designed to minimize spills and evaporation of VOC degreasing materials.

(3) ✓ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;

(4) ✓ Brazing, soldering, or welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals and not directly related to plant maintenance, upkeep and repair or maintenance shop activities;

(5) Containers, reservoirs, or tanks used exclusively for:

(a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

(b) No. 15 Storage of lubricating oils;

(c) No. 6 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

(d) No. 1 Storage of motor vehicle gasoline and having individual tank capacities of 2,000 gallons (7.6 cubic meters) or less;

(6) ✓ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;

(7) ✓ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;

(8) ✓ Potable water treatment equipment, not including air stripping equipment;

(9) ✓ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act;

(10) ✓ Natural draft hoods or natural draft ventilators that exhaust air pollutants into the ambient air from manufacturing/industrial or commercial processes;

(11) ✓ Laboratory fume hoods and vents;

STATE ONLY ENFORCEABLE REQUIREMENTS

The Permittee is subject to the following State-only enforceable requirements:

Applicable Regulations:

COMAR 26.11.06.08 – Nuisance. "An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be consumed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution."

COMAR 26.11.06.09 - Odors. "A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created."

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

For By-Pass Stack:
F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Standards/Limits:

COMAR 26.11.09.05. – Visible Emissions.
"A. Fuel Burning Equipment.
(4) Fuel Burning Equipment Required to Operate a COM. The owner or operator of fuel burning equipment that is subject to the requirement to install and operate a COM shall demonstrate compliance with the applicable visible emissions limitation specified in §A(1) and (2) of this regulation as follows:
(a) For units with a capacity factor greater than 25 percent, until December 31, 2009, compliance is achieved if visible emissions do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4 percent of the unit's operating time in any calendar quarter, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity, except for 5.0 hours or 0.5 percent of the unit's operating time, whichever is greater;
(ii) Do not exceed 70.0 percent opacity for more than four (4) 6-minute periods, except that coal-fired units equipped with electrostatic precipitators may exceed 70.0 percent opacity for no more than 2.2 hours; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4

hours and do not exceed 70.0 percent opacity for more than two (2) six-minute periods;
(b) For units with a capacity factor greater than 25 percent, beginning January 1, 2010, compliance is achieved if visible emissions do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 2 percent of the unit's operating time in any calendar quarter, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity, except for 5.0 hours or 0.5 percent of the unit's operating time, whichever is greater;
(ii) Do not exceed 70.0 percent opacity for more than four (4) six-minute periods, except that coal-fired units equipped with electrostatic precipitators may exceed 70.0 percent opacity for no more than 2.2 hours; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods;
(c) For units with a capacity factor equal to or less than 25 percent that operate more than 300 hours per quarter, beginning July 1, 2009, compliance with the applicable visible emissions limitation in §A(1) and (2) of this regulation is achieved if, during a calendar quarter, visible emissions do not exceed the applicable standard for more than 20.0 hours, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity for more than 2.2 hours;
(ii) Do not exceed 70 percent for more than four 6-minute periods; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods; and
(d) For units with a capacity factor equal to or less than 25 percent that operate 300 hours or less per quarter, beginning July 1, 2009, compliance with the applicable visible emissions limitation in §A(1) and (2) of this regulation is achieved if, during a calendar quarter, visible emissions do not exceed the applicable standard for more than 12.0 hours, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity for more than 2.2 hours;
(ii) Do not exceed 70.0 percent opacity for more than four 6-minute periods; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods.
(5) Notwithstanding the requirements in §A(4) of this regulation, the Department may determine compliance and noncompliance with the visible emissions

limitations specified in §A(1) and (2) of this regulation by performing EPA reference Method 9 observations.
(6) In no instance shall excess emissions exempted under this regulation cause or contribute to a violation of any ambient air quality standard in 40 CFR Part 50, as amended, or any applicable requirements of 40 CFR Part 60, 61, or 63, as amended. "

"B. Determining Violations.
(1) For each unit required to operate a COM pursuant to COMAR 26.11.01.10A(1)(a) and (b), each day during a calendar quarter when the opacity of emissions from that unit during the calendar quarter or calendar day, as applicable, exceeds the emission limitations in §A(4)(a), (b), (c) and (d) of this regulation shall constitute a separate day of violation.
(2) A violation of §A(4)(a)(i), (ii), or (iii), §A(4)(b)(i), (ii) or (iii), §A(4)(c)(i), (ii) or (iii), or §A(4)(d)(i), (ii) or (iii), of this regulation, as applicable, that occur on the same day shall constitute separate violations.
(3) A daily violation that occurs during the same calendar quarter as a quarterly violation is a separate violation. "

"C. Fuel Burning Equipment Subject to Federal COM Requirements. Except for owners or operators of fuel burning equipment subject to any federal requirement that mandates operation of a COM and as provided in §D of this regulation, the owner or operator of fuel burning equipment required to install and operate a COM may discontinue the operation of the COM on fuel burning equipment that is served by a flue gas desulfurization device:
(1) When emissions from the equipment do not bypass the flue gas desulfurization device serving the equipment;
(2) When the flue gas desulfurization device serving the equipment is in operation;
(3) If the owner or operator has demonstrated to the Department's satisfaction, in accordance with 40 CFR §75.14, as amended, and all other applicable State and federal requirements, that water vapor is present in the flue gas from the equipment and would impede the accuracy of opacity measurements; and
(4) If the owner or operator has fully implemented an alternative plan, approved by the Department, for monitoring opacity levels and particulate matter emissions from the stack that includes:
(a) A schedule for monthly observations of visible emissions from the stack by a person trained to perform Method 9 observations; and
(b) Installation and operation of a particulate matter CEM that complies with all applicable State and federal requirements for particulate matter CEMs. "

"D. If, for units equipped with a flue gas desulfurization device, emissions bypass the device and are discharged through a bypass stack, the bypass stack shall be equipped with a COM approved by the Department."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

March 2008 Opacity Consent Decree
Emissions Unit Number(s): F1 and F2: Boilers Cont'd **March 2008 Opacity Consent Decree** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)
Applicable Requirements: Control of Visible Emissions *Completed:* **Consent Decree Section V. Evaluation of Opacity Exceedances, paragraphs 7, 8, 9, 10.** **Compliance Assurance Monitoring** *Completed:* **Consent Decree Section VII. Implementation of Interim and Final CAM Plans, paragraphs 11, 12, 13, 14, 15, 16, 17, 18.** ***PM limit is 0.100 pounds per million Btu of heat input by stack test and 0.100 pounds per million Btu of heat input 24-hour rolling average by PEM. (Condition 32 and 40, March 2008 Consent Decree)*** **Particulate Matter Stack Testing** *Completed:* **Consent Decree Section VIII. Particulate Matter Stack Testing, paragraphs 26, 27, 28.** ***See letter dated October 6, 2011 – Petition to stop 170-day stack testing.*** *Completed:* **Consent Decree Section X. Installation of Particulate Matter CEMS, paragraph 31.** Each PM CEMS shall be comprised of a continuous particle mass monitor or equivalent device measuring particulate matter concentration for Morgantown Units 1 and 2 in lbs/mm Btu on a 24-hour rolling average basis. NRG shall maintain, in an electronic database, the hourly average emission values recorded by all PM CEMS for five (5) years. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 32.]** NRG shall use reasonable efforts to keep each PM CEMS operating and producing data whenever a Unit served by the PM CEMS is operating. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 33.]** *Completed:* **Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 34.**

March 2008 Opacity Consent Decree

NRG shall provide the Department with written notice of the date on which initial operation of each PM CEMS is commenced. No later than 90 days following initial operation of a PM CEMS, NRG shall submit to the Department for review and approval a proposed Quality/Assurance/Quality Control ("QA/QC") protocol for that PM CEMS, including a maintenance schedule, which shall be followed in calibrating and operating the PM CEMS. The protocol shall be developed in accordance with EPA Procedures 2 of Appendix F or 40 CFR Part 60 ("Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems Used at Stationary Sources"). NRG shall operate each PM CEMS in accordance with the approved protocol. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 35]**

NRG shall submit quarterly PM CEMS reports to the Department that comply with COMAR 26.11.01.11E(2)(c)(i) through (vi). All data shall be reported in 24-hour rolling averages. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 36]**

Not Applicable. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 37]**

Completed. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 38]**

Unless otherwise required by State or federal law or regulation, upon initial operation of an FGD pollution control device on a Unit subject to this Consent Decree, NRG may discontinue use of opacity CEMs to monitor the opacity emissions from the stack serving such Unit, provided that: (a) emissions from such Unit do not bypass the FGD serving that Unit and FGD technology serving that Unit is in operation; (b) NRG has fully implemented an alternative plan for monitoring opacity levels and particulate matter emissions from the stack serving such Unit that has been approved by the Department; and (c) NRG has demonstrated to the satisfaction of the Department and the United States Environmental Protection Agency, in accordance with 40 CFR §75.14 and applicable EPA regulations, policy and guidelines, that condensed water is present in the flue gas stream from such Unit and would impede the accuracy of opacity measurements. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 39]**

Morgantown Units 1 and 2 shall be subject to a particulate matter emission limitation of **0.100 lbs/mmBtu heat input**. Compliance with the particulate matter limitation shall be demonstrated by stack test performed in accordance

March 2008 Opacity Consent Decree

with Paragraphs 26 and 27, and by PM CEMs data in accordance with Section X, except that violations of the particulate matter emission limitation recorded by PM CEMs data shall be subject to §2-611 of the Environmental Article (Plan for Compliance). Violations of the particulate matter standard demonstrated by stack testing are not subject to a Plan for Compliance pursuant to §2-611 of the Environment Article and shall be subject to all sanctions and remedies available to the Department. **[Reference: Consent Decree Section XI. Particulate Matter Limitation Applicable to Morgantown Units 1 and 2, paragraph 40]**

Not Applicable. **[Reference: Consent Decree Section XI. Particulate Matter Limitation Applicable to Morgantown Units 1 and 2, paragraph 41 & 42]**

Control of Sulfur Emissions

NRG shall ensure that each train of coal scheduled for delivery to the Morgantown Plant for combustion in Units 1 and 2 is sampled for sulfur content prior to delivery. NRG shall not burn coal that will cause SO_2 emissions in excess of 3.5 lbs/mm Btu heat input. [**Reference: Consent Decree Section III. Coal Sampling, paragraph 5]**

Truck Washing Facility

NRG shall commence operation of a Truck Washing Facility designed to reduce fugitive particulate matter emissions at the Morgantown Plant no later than September 30, 2008. Each Truck Washing Facility shall be installed to wash the wheels, undercarriage, and sides of all trucks used to haul fly ash and bottom ash to off-site storage facilities. Each Truck Washing Facility shall consist of a steel basin with ramps on either end, or an array of nozzles that spray high velocity jets of water on the bottom and sides of trucks as they are driven through the device. Water shall be recirculated through a filtration tank. Accumulated ash solids in each filtration tank shall be removed periodically and transported off site to an appropriate ash storage facility in accordance with all applicable local, State and Federal laws and regulations. The truck washing operation may be discontinued when ambient temperatures drop, or are expected to drop, below 36 degrees Fahrenheit, or otherwise when potential freezing would cause or contribute to unsafe conditions. [**Reference: Consent Decree Section XII. Truck Washing Facilities, paragraph 43]**

Mist Eliminators

NRG shall install and maintain a mist eliminator in each FGD/SO_2 absorber for Morgantown Units 1 and 2, as specified in each of NRG's separate applications for a CPCN to install FGD technology at the Plants. [**Reference: Consent Decree Section XIII. Mist Eliminators, paragraph 44] By 12/31/2009.**

Reporting Requirements

Beginning with the quarter that commences on January 1, 2008, NRG shall

March 2008 Opacity Consent Decree
submit to the Department quarterly reports describing the status of NRG's compliance with the terms and conditions of the Consent Decree. Each quarterly report shall be due no later than 30 days following the end of the quarter, unless such date falls on a weekend or holiday, in which case the report shall be due on the next business day. The first quarterly report shall be due on April 30, 2008. **[Reference: Consent Decree Section XIV. Reporting, paragraph 45]** *Completed*. **[Reference: Consent Decree Section XIV. Reporting, paragraph 46]**

Emissions Unit Number(s): F1 and F2: Boilers [SCR Agreement]
F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Standards/Limits:

The Permittee shall install and continuously operate two selective reduction (SCR) nitrogen oxide control devices on Units 1 and 2. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

Subject to Paragraph 3 of this Agreement, NRG agrees that at all times when either Unit 1 or Unit 2 at the Morgantown Generating Station is operating with an SCR control device, particulate matter emissions from each operating Unit, individually, shall not exceed the emission limitation required by Code of Maryland Regulation (COMAR) 26.11.09.06A, or the Unit's baseline actual particulate matter emissions as determined by 40 CFR 52.21(b)(48), whichever is lower. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

Where baseline actual particulate matter emissions from a Unit subject to this Agreement are lower than the emission limitation required by COMAR 26.11.09.06A, particulate matter emissions from such Unit may exceed the Unit's baseline actual emissions, if and only if, NRG obtains the Department's approval, by written amendment to this Agreement, to reduce particulate matter emissions from one or more other emission units at the Morgantown Generating Station by an amount equivalent to the increase in actual particulate matter emissions resulting from the installation of the SCR control device. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

The ammonia emissions from Unit 1 and Unit 2, individually, shall not exceed 3 parts per million (ppm) determined by a stack test conducted on each Unit in accordance with EPA or Department approved test protocols no later than 180 days following the Unit's initial startup with the SCR control device. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

Testing Requirements:
The Permittee shall conduct a stack test for particulate matter emissions on each Unit in accordance with EPA or Department approved test methods no later than 180 days following the Unit's initial startup with the SCR control device.
[Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]

Monitoring Requirements:
COMAR 26.11.01.11 - Continuous Emission Monitoring Requirements.
"A. Applicability and Exemptions.
(1) The provisions of this regulation apply to:
(a) Fuel-burning equipment burning coal that has a rated heat input capacity of 100 million Btu per hour or greater."
"(2) An owner or operator that is required to install a CEM under any federal requirement is also subject to all of the provisions of this regulation."
B. General Requirements for CEMs.
"(1) An owner or operator subject to this regulation shall:
(a) Before installing a CEM, submit to the Department, for approval by the Department and EPA, a plan containing the CEM design specifications, proposed location, and a description of a proposed alternative measurement method; and
(b) Install and operate a CEM in accordance with the plan approved by the Department and EPA under the provisions of §B(1)(a) of this regulation. "
"(2) The owner or operator of fuel-burning equipment burning coal, with a heat input capacity of 100 million Btu per hour or greater, shall install CEMs to measure and record sulfur dioxide, nitrogen oxide, either oxygen or carbon dioxide, and flow."
"(4) Except as otherwise approved by the Department, if the owner or operator is unable to obtain emissions data from CEMs because of a malfunction of the CEM for more than 2 hours in duration, the owner or operator shall use the alternative measurement method approved by the Department and EPA. "
"C. Quality Assurance for CEMs. A CEM used to monitor a gas concentration shall meet the quality assurance criteria of 40 CFR Part 60, Appendix F, as amended, which is incorporated by reference, or, if applicable, the quality assurance criteria of 40 CFR Part 75, Appendix B, as amended.
D. Monitoring and Determining Compliance.

(1) General. A CEM required by this regulation is the primary method used by the Department to determine compliance or non-compliance with the applicable emission standards established in any permit or approval, administrative or court order, Certificate of Public Convenience and Necessity, or regulation in this subtitle.
(2) Data Reduction. A CEM used to monitor a gas concentration shall record not less than four equally spaced data points per hour and automatically reduce data in terms of averaging times consistent with the applicable emission standard.
E. Record Keeping and Reporting Requirements.
(1) CEM System Downtime Reporting Requirements.
(a) All CEM system downtime that lasts or is expected to last more than 24 hours shall be reported to the Department by telephone before 10 a.m. of the first regular business day following the breakdown.
(b) The system breakdown report required by §E(1)(a) of this regulation shall include the reason, if known, for the breakdown and the estimated period of time that the CEM will be down. The owner or operator of the CEM shall notify the Department by telephone when an out-of-service CEM is back in operation and producing data that has met performance specifications for accuracy, reliability, and durability of acceptable monitoring systems, as provided in COMAR 26.11.31, and is producing data.
(2) CEM Data Reporting Requirements.
(a) All test results shall be reported in a format approved by the Department.
(b) Certification testing shall be repeated when the Department determines that the CEM data may not meet performance specifications because of component replacement or other conditions that affect the quality of generated data.
(c) A quarterly summary report shall be submitted to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by the Department, and shall include the following:
(i) The cause, time periods, and magnitude of all emissions which exceed the applicable emission standards;
(ii) The source downtime including the time and date of the beginning and end of each downtime period and whether the source downtime was planned or unplanned;
(iii) The time periods and cause of all CEM downtime including records of any repairs, adjustments, or maintenance that may affect the ability of the CEM to meet performance specifications of emission data;
(iv) Quarterly totals of excess emissions, installation downtime, and CEM downtime during the calendar quarter;
(v) Quarterly quality assurance activities;
(vi) Daily calibration activities that include reference values, actual values, absolute or percent of span differences, and drift status; and
(vii) Other information required by the Department that is determined to be necessary to evaluate the data, to ensure that compliance is achieved, or to determine the applicability of this regulation.
(d) All information required by this regulation to be reported to the Department

shall be retained and made available for review by the Department for a minimum of 2 years from the time the report is submitted. "

Reporting Requirements:
The Permittee shall submit a stack test protocol to the Department for approval and notify the Department of the scheduled test date at least thirty-(30) days in advance of the test. The Permittee shall submit the stack test results to the Department no later than forty-five (45) days following completion of the test. **[Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006**]

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

Alternate Operating Scenario for Emission Units F1 & F2

The Permittee shall burn used oil and boiler chemical cleaning waste materials in the utility boilers.

COMAR 26.11.09.10 - Requirements to Burn Used Oil and Waste Combustible Fluid as Fuel.

Applicable Regulations:
A. "General Requirements.
(1) A person who proposes to burn used oil or waste combustible fluid in an installation shall submit the following information to the Department:
(a) A description of, and the location of, each fuel-burning equipment or other installation in which the used oil or WCF is to be burned and the rated heat input capacity of each;
(b) The type and amount of fuel currently being used in each installation and the gallons of used oil or WCF expected to be burned annually;
(c) The maximum percentage of used oil or WCF to be burned as fuel in each installation; and
(d) An analysis by an independent laboratory of a representative sample of the used oil or WCF, which shall include the concentration of each of the materials listed in §B of this regulation, the PCB concentration, and the flash point.

(2) A person may burn on-specification used oil in any installation upon submitting the information required in §A(1) of this regulation.
(3) A person who is burning used oil or WCF under a current approval issued by the Department may continue to burn the approved material if:
(a) The person registers the equipment that is burning the used oil or WCF by

submitting the information required in §A(1) of this regulation; and
(b) The used oil or WCF is being burned in an authorized installation.

(4) A person who proposes to burn off-specification used oil or WCF in an installation other than a space heater, as provided in 40 CFR §279.23, is subject to the permit or registration requirements in COMAR 26.11.02.
(5) A person who receives a permit or registration to burn used oil or WCF shall burn only the materials authorized in the permit or registration.
(6) A person may burn off-specification used oil and waste combustible fluid only in those installations listed at 40 CFR §279.12(c)."

B "Specifications for Used Oil.
(1) Except as provided in §B(2) of this regulation, used oil specifications are as follows:

Material	Allowable Level
(a) Lead	100 ppm
(b) Total halogens	4,000 ppm
(c) Arsenic	5 ppm
(d) Cadmium	2 ppm
(e) Chromium	10 ppm
(f) Flash point	100° F minimum

(2) For used oil that does not satisfy the rebuttable presumption for halogens at 40 CFR 279.10(b)(1)(ii) and 279.63, the maximum allowable level for halogens may not exceed 1,000 ppm."

Record keeping
The Permittee shall maintain a record of the quantity of used oil that is burned and analyses by an independent laboratory of representative samples of the used oil.

Healthy Air Act Requirements
These regulations became effective under an Emergency Action on January 18, 2007 and were adopted as permanent regulations on June 17, 2007. They implement the requirements of the Healthy Air Act (Ch. 23, Acts of 2006), which was signed into law on April 6, 2006 and which established emission limitations and related requirements for NO_X, SO_2 and mercury. Regulations .1-.03, .03E, .05 and .06 related to the reductions of NO_X, and SO_2 emissions were submitted to EPA as a revision to Maryland's State Implementation Plan (SIP) on June 12, 2007. The requirements for NO_X, and SO_2 emissions, all except for one were approved by EPA, as a SIP revision on September 4, 2008 with an effective date of October 6, 2008. The requirements for mercury emissions are not part of the Maryland's SIP and are therefore, part of the State-Only Section.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

Emissions Unit Number(s): F1 and F2: Boilers Cont'd
F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Regulations:
COMAR 26.11.27 - Emission Limitations for Power Plant
COMAR 26.11.27.03 – General Requirements
A. An electric generating unit subject to this chapter shall comply with the emission limitations for NO_X, SO_2, and mercury as provided in this regulation.
B. NO_X Emission Limitations.
Healthy Air Act State-Only enforceable NO_X requirement
COMAR 26.11.27.03B(7)(iii) – "Not later than December 31 of the year in which the emission limitation is exceeded, the owner or operator of the affected generating unit or units transfers to the Maryland Environmental Surrender Account, ozone season NO_X allowances equivalent in number to the tons of NO_X emitted in excess of the emission limitation in §B(4) or (6), as applicable".

COMAR 26.11.27.03D. Mercury Emission Limitations.
(1) For the 12 months beginning January 1, 2010 and ending with the 12 months beginning December 1, 2012 to December 1, 2013, each affected facility shall meet 12-month rolling average removal efficiency for mercury of at least 80 percent.
(2) For the 12 months beginning January 1, 2013 and thereafter, each affected facility shall meet 12-month rolling average removal efficiency for mercury of at least 90 percent.
(3) The mercury removal efficiency required in §D(1) and (2) of this regulation shall be determined in accordance with Regulation .04 of this chapter.

COMAR 26.11.27.04 - Determining the Mercury Removal Efficiency for Affected Facilities.
A. The procedures of §§B—F of this regulation shall be used to demonstrate compliance with the 12-month rolling average removal efficiency required for mercury by Regulation .03D of this chapter. The owner or operator of an affected facility shall notify the Department of the compliance demonstration method it has elected from §§D—F of this regulation on or before January 1, 2010, for the compliance period that commences on that date and on or before January 1, 2013, for the compliance period that commences on that date. The owner or operator of an electric generating unit that elects to demonstrate compliance with the required mercury removal efficiency by meeting the mass emissions limitation in §F of this regulation shall utilize that same method for all other electric generating units in the system. Once elected for each affected facility or system, as applicable, the option may not be changed during the designated compliance period, but may be changed for the next compliance period.

B. Determining Mercury Content in Coal and Mercury Flue Gas Emission Rates for Each Affected Electric Generating Unit.
(1) The owner or operator of an electric generating unit subject to this regulation shall, at least once each quarter during a consecutive 18-month period beginning not later than July 1, 2007:
(a) Determine the mercury content of the coal utilized by each affected unit using a test method approved by the Department; and
(b) Conduct a combustion gas test to determine the mercury emission rate in the flue gas upstream of any pollution control measure, including fuel mercury beneficiation.
(2) Combustion gas testing and collection of coal samples to determine the mercury content in coal shall be performed on the same day or days.
(3) The mercury emission rate in the flue gas shall be reported as ounces of mercury per trillion Btu heat input.
(4) Combustion gas testing shall be performed using a test protocol approved by the Department. The test protocol shall be submitted to the Department at least 45 days prior to commencement of testing.
(5) The owner or operator of an affected electric generating unit shall submit to the Department:
(a) The results of tests to determine the mercury content of coal and mercury emission rate in the flue gas upon receipt; and
(b) A demonstration that the combustion gas tests were performed utilizing a coal with a mercury content within the same or lower range as the mercury content of the coal utilized by the electric generating unit during the previous 10 years. *Completed.*

C. Determining the Uncontrolled Mercury Flue Gas Baseline for an Affected Facility.
(1) The uncontrolled mercury emission rate in the flue gas of each electric generating unit subject to this chapter shall be determined as the arithmetic average of the quarterly combustion gas tests required by §B of this regulation expressed as ounces per trillion Btu heat input.
(2) The uncontrolled mercury baseline emission rate for an affected facility shall be determined as the heat input weighted average of the emission rates for the coal-fired electric generating units at the affected facility determined in accordance with §C(1) of this regulation.
(3) The uncontrolled mercury baseline emission rate in §C(1) and (2) of this regulation shall be measured upstream of all pollution control measures, including fuel mercury beneficiation. *Completed.*

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

(1) For the 12-month period commencing on January 1, 2010, not more than 20 percent of the uncontrolled mercury emission rate established pursuant to §C of this regulation; and
(2) For the 12-month period commencing January 1, 2013 and thereafter, not more than 10 percent of the uncontrolled mercury emission rate established pursuant to §C of this regulation.

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

Affected Facility	Emission Limits Ounces per Trillion Btu Heat Input Beginning	
	January 1, 2010	January 1, 2013
Morgantown	27	14

F. Demonstrating Compliance by Meeting a Mercury Mass Emission Cap.
(1) Compliance with the required mercury removal efficiency is demonstrated at an affected facility when the mass emissions from all affected facilities in a system, measured in pounds as a 12-month rolling average, do not exceed the applicable emission limits in §F(2) of this regulation.

(2) Mercury Emission Limits.

Affected Facility	Emission Limits Pounds per Year Beginning	
	January 1, 2010	January 1, 2013
Morgantown	127	66

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

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

COMAR 26.11.27.05 - Monitoring and Reporting Requirements.
A. Compliance with the emission limitations in this chapter shall be demonstrated with a continuous emission monitoring system that is installed, operated, and certified in accordance with 40 CFR Part 75.

COMAR 26.11.27.05 - Monitoring and Reporting Requirements.
B. Beginning with calendar year 2007 and each year thereafter, the owner or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year.

C. Each report shall include:
(1) Emissions performance results related to compliance with the emission requirements under this chapter;
(2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit;
(3) A current compliance plan; and
(4) Any other information requested by the Department.

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Regulations:

Management of Coal Combustion Byproducts

COMAR 26.04.10.03 - General Restrictions and Specifically Prohibited Acts.

(1) COMAR 26.04.10.03B(3) - Air Pollution
"(a)A person may not engage in the disposal, storage, transportation, processing, handling, or use of coal combustion byproducts without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include, when appropriate as determined by the Department, those precautions described in COMAR 26.11.06.03C and D."

"(b) In addition to the requirements of paragraph (a), a person may not transport coal combustion byproducts without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include, at a minimum the following:
(i)Vehicles transporting coal combustion byproducts shall be fully enclosed, or fully enclosed on all sides and covered with a firmly secured canvas or similar type covering, so as to prevent any coal combustion byproducts from blowing off, falling off, or spilling out of the vehicle or the coal combustion byproducts shall be handled and transported in sealed containers designed for transportation of powdery solids;
(ii)Before leaving a site where coal combustion byproducts are loaded or off-loaded, vehicles transporting coal combustion byproducts shall be rendered clean and free of excess material or debris that could blow off, fall off, or spill during transport;
(iii)Coal combustion byproducts being loaded into or off-loaded from a vehicle shall be sufficiently moistened or otherwise conditioned or contained to prevent particulate coal combustion byproducts from becoming airborne or causing fugitive air emissions; and
(iv)Transporters of coal combustion byproducts shall maintain an inspection log that shall be maintained in each vehicle at all times during transport of coal combustion byproducts that shall certify compliance with the standards in this regulation .03B(3)(b)."

(2) COMAR 26.04.10.05 - Storage
"A. A person may not store coal combustion byproducts except in accordance with the provisions of this regulation.

B. A person may not store coal combustion byproducts directly on the surface of the ground or in an unlined surface impoundment, pit, pond, or lagoon without the authorization of the Department.

C. A person shall store coal combustion byproducts in a manner that prevents contact with waters of this State and that is designed either to minimize contact with precipitation or to collect leachate that may result from contact with precipitation.

D. A person may not use a storage system for coal combustion byproducts unless the storage system is:
(1) Designed, constructed, and installed to contain coal combustion byproducts and contaminants in the coal combustion byproducts and prevent them from being released to the environment; and
(2) Provided with a roof or other protections to prevent nuisance, air pollution, and unlawful discharges of contaminated stormwater or leachate to the waters of this State.

E. A person may not store coal combustion byproducts in an area likely to pollute the waters of this State.

F. Responsibility for the prompt control, containment, and removal of any released coal combustion byproducts or for placing coal combustion byproducts in a position likely to pollute the waters of this State shall be with the person responsible for the release, and with the owner and operator of the facility, site, or storage system where the release occurred. This responsibility shall continue until removal or clean up of any contamination or pollution from the release has been accomplished to the satisfaction of the Department.

G. The Department may impose specific requirements for the storage of coal combustion byproducts upon a determination that storage of coal combustion byproducts has caused or is likely to cause a discharge to the waters of the State, is a nuisance, or otherwise poses a threat to public health or the environment.

H. The owner and operator of a facility, site, or storage system shall ensure that:
(1) A release of coal combustion byproducts during storage operations due to spilling or overflowing does not occur;
(2) Adequate storage space is available to handle the volume of coal combustion byproducts generated and to be stored; and
(3) Transfer, handling, and storage operations are performed in a manner that shall prevent, contain, and clean up spills of coal combustion byproducts."

Emissions Unit Number(s): STAR

The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization scrubber system. Exhaust gases are directed through a 125 foot stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems. (**6-0150 (CPCN 9229)**)

[Reference: CPCN 9229]
A-36. Annual emissions from the Morgan STAR Facility shall be less than the following in consecutive 12-month period, rolling monthly, inclusive of emissions during periods of startup, shutdown and malfunction:

Pollutant	**Emission Limit for Entire Morgantown STAR Facility (pounds per year)**
Mercury (Hg)	5

A-37. NRG shall conduct annual performance stack tests of the STAR process reactor to determine compliance with COMAR Title 26, Subtitle 11 for mercury [COMAR 26.11.01.04A. The performance stack tests shall be conducted with a representative composite of fly ash typically combusted in the STAR process reactor at that time. NRG shall submit a stack test protocol to MDE-ARMA for approval, in accordance with Condition A-25.

A-38. NRG shall analyze samples of the unprocessed fly ash entering the STAR process reactor and the processed fly ash exiting the STAR process reactor or mercury concentration on a monthly basis.

A-39. NRG shall submit a quarterly monitoring report to MDE-ARMA, postmarked by the 30th day following the end of each calendar quarter that includes the following information for the STAR Facility:
(a) The actual emissions of mercury for the STAR Facility based on a consecutive 12-month period, rolling monthly. An algorithm, including example calculations, emissions factors, and monthly throughput, explaining the method used to determine emission rates shall be submitted to MDE-ARMA for review and approval at least 60 days prior to the initial quarterly monitoring report. Subsequent submittals of the algorithm and sample calculations are only required if NRG changes the method of calculating emissions, changes emissions factors, or if requested by MDE-ARMA; and
(b) The analysis results for the monthly samples of the unprocessed fly ash and processed fly ash required under Condition A-38.

A-40. NRG shall maintain any records necessary to determine the STAR Facility mercury actual emissions. Emissions shall be calculated monthly and annually based on a consecutive 12-month period, rolling monthly for comparison with the annual emission limit in Condition A-36.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
PERMIT NO. 24-017-0014
PART 70 OPERATING PERMIT FACT SHEET

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

COMAR 26.11.38 – Control of NO_X Emissions from Coal-Fired Electric Generating Units.

Applicable Regulations:

COMAR 26.11.38.02 – Applicability
"The provisions of this chapter apply to an affected electric generating unit as that term is defined in §.01B of this chapter."

COMAR 26.11.38.03 – NO_X Emission Control Requirements

A. Daily NO_X Reduction Requirements During the Ozone Season
   (1) Not later than 45 days after the effective date of this regulation, the owner or operator of an affected electric generating unit shall submit a plan to the Department and EPA for approval that demonstrated how each affected electric generating unit ("the unit") will operate installed pollution control technology and combustion controls to meet the requirements of §A(2) of this regulation. The plan shall cover all modes of operation, including but not limited to normal operations, start-up, shut-down and low load operations.
   (2) Beginning on May 1, 2015, for each operating day during the ozone season, the owner or operator of an affected electric generating unit shall minimize NO_X emissions by operating and optimizing the use of all installed pollution control technology and combustion controls consistent with the technological limitations, manufacturers' specification, good engineering and maintenance practices, and good air pollution control practices for minimizing emissions (as defined in 40 CFR §60.11(d)) for such equipment and the unit at all times the unit is in operation while burning any coal.

B. Ozone Season NO_X Reduction Requirements.
   (1) Except as provided in §B(3) of this regulation, the owner or operator of an affected electric generating unit shall not exceed a NO_X 30-day system-wide rolling average emission rate of 0.15 lbs/MMBtu during the ozone season.
   (2) The owner or operator of an affected electric generating unit subject to the provisions of this regulation shall continue to meet ozone season NO_X reduction requirements in COMAR 26.11.27.

C. Annual NO_X Reduction Requirements.
   The owner of operator of an affected electric generating unit subject to the

provisions of this regulation shall continue to meet the annual NOX reduction requirements in COMAR 26.11.27.

COMAR 26.11.38.04 – Compliance Demonstration Requirements

A. Procedures for demonstrating compliance with §.03(A) of this chapter.
   (1) An affected electric generating unit shall demonstrate, to the Department's satisfaction, compliance with §.03(A)(2) of this chapter, using the information collected and maintained in accordance with §.03(A)(1) of this chapter and any additional demonstration available to and maintained by the affected electric generating unit.
   (2) An affected electric generating unit shall not be required to submit a unit-specific report consistent with §A(3) of this regulation when the unit emits at levels that are at or below the following rates:

Affected Unit	24-Hour Block Average NO_X Emissions in lbs/MMBtu
Morgantown	
Unit 1	0.07
Unit 2	0.07

   (3) The owner or operator of an affected electric generating unit subject to §.03(A)(2) of this chapter shall submit a unit-specific report for each day the unit exceeds its NO_X emission rate of §A(2) of this regulation, which shall include the following information for the entire operating day:
      (a) Hours of operation for the unit;
      (b) Hourly averages of operating temperature of installed pollution control technology;
      (c) Hourly averages of heat input (MMBtu/hr);
      (d) Hourly averages of output (MWh);
      (e) Hourly averages of Ammonia or urea flow rates;
      (f) Hourly averages of NO_X emissions data (lbs/MMBtu and tons);
      (g) Malfunction data;
      (h) The technical and operational reason the rate was exceeded, such as:
         (i) Operator error;
         (ii) Technical events beyond the control of the operator (e.g. acts of God, malfunction); or
         (iii) Dispatch requirements that mandate unplanned operation (e.g. start-ups and shut-down, idling and operation at low voltage or low load)
      (i) A written narrative describing any actions taken to reduce emission rates; and
      (j) Other information that the Department determines is necessary to evaluate the data or to ensure that compliance is achieved.
   (4) An exceedance of the emissions rate if §A(2) of this regulation as a result of factors including but not limited to start-up and shut-down, days when

the unit was directed by the electric grid operator to operate at low load or to operated pursuant to any emergency generation operations required by the electric grid operator, including necessary testing for emergency operations, or to have otherwise occurred during operations which are deemed consistent with the unit's technological limitations, manufacturers' specifications, good engineering and maintenance practices, and good air pollution control practices for minimizing emissions, shall not be considered a violation of §.03A(2) of this chapter provided that the provisions of the approved plan as required in §.03A(1) of this chapter are met.

B. Procedures for demonstrating compliance with NO_X emission rates of this chapter.
   (1) Compliance with the NO_X emission rate limitations in §.03B(1), §.03D(2), and §.04A(2) of this chapter shall be demonstrated with a continuous emission monitoring system that is installed, operated, and certified in accordance with 40 CFR Part 75.
   (2) For §.03B(1) of this chapter, in order to calculate the 30-day system-wide rolling average emissions rated, if twenty-nine system operating days are not available from the current ozone season, system operating days from the previous ozone season shall be used.

COMAR 26.11.38.05 – Reporting Requirements

A. Reporting Schedule
   (1) Beginning 30 days after the first month of the ozone season following the effective date of this chapter, each affected electric generating unit subject to the requirements of this chapter shall submit a monthly report to the Department detailing the status of compliance with this chapter during the ozone season.
   (2) Each subsequent monthly report shall be submitted to the Department not later than 30 days following the end of the calendar month during the ozone season.

B. Monthly Reports During Ozone Season.
   Monthly reports during the ozone season shall include:
   (1) Daily pass or fail of the NO_X emission rates of §.04A(2) of this chapter.
   (2) The reporting information as required under §.04A(3) of this chapter.
   (3) The 30-day system-wide rolling average emissions rate for each affected electric generating unit to demonstrate compliance with §.03B(1) of this chapter.

DECLARATION OF DR. RANAJIT (RON) SAHU

Petition to Object to Title V Permit for Morgantown Generating Station (Proposed Permit No. 24-017-0014)

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.

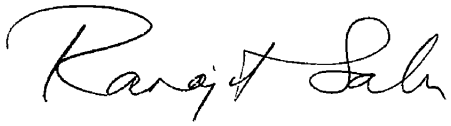
5. As part of my work over the past 25 years on Clean Air Act permits and regulatory compliance, teaching courses on air pollution, serving as an expert in Clean Air Act lawsuits, and other engineering and technical work, I have worked with and established numerous high linear regression correlations, including such correlations between opacity and particulate matter ("PM") at coal-fired power plants.

6. I have reviewed the high linear regression correlation of 0.9404 between actual opacity and PM emissions data that was previously calculated by NRG or a third party for Unit 2 at Morgantown Generating Station. That correlation is discussed at pages 34-36 in the final fact sheet for the Morgantown plant's Title V permit. That fact sheet also states that, at 20% opacity, PM emissions at Morgantown were predicted to be about 0.095 lbs/mmBtu and that, at 18% opacity, PM emissions are predicted to be approximately 0.085 lbs/mmBtu. Based on this

correlation and data, I calculate that, when Morgantown has PM emissions of 0.14 lbs/mmBtu, the plant's opacity would be 29%.

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

Dated this 28th day of December, 2015.



Dr. Ranajit Sahu

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

CONSULTANT, ENVIRONMENTAL AND ENERGY ISSUES

311 North Story Place
Alhambra, CA 91801
Phone: 702.683.5466
e-mail (preferred): sahuron@earthlink.net

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).

"Discrete Simulation of Cenospheric Coal-Char Combustion," with R.C. Flagan and G.R.Gavalas, *Combust. Flame*, **77**, 337-346 (1989).

"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 Puchase 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 USA, 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 (Jue 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 Coleto 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).

(tttt) 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).

(aaaaa) 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.).

(bbbbb) 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).

(ddddd) 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.

(eeeee) 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).

(fffff) 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).

(ggggg) 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.

(iiiii) 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).

(jjjjj) 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).

(kkkkk) 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).

(llllll) 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).

(mmmmm) 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).

(nnnnn) 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).

September 19, 2013

VIA E-MAIL AND FIRST CLASS MAIL

Shannon Heafey
Air Quality Permits Program
Air and Radiation Management Administration
1800 Washington Boulevard Suite 720
Baltimore, Maryland 21230-1720
sheafey@mde.state.md.us

RE: Comments of the Sierra Club, Chesapeake Climate Action Network and the Environmental Integrity Project Regarding Morgantown Generating Station's Proposed Title V/State Operating Permit (24-017-0014)

Dear Ms. Heafey:

The Sierra Club, Chesapeake Climate Action Network, and Environmental Integrity Project ("Environmental Groups") submit the following comments regarding the proposed Title V Operating Permit ("Proposed Permit") published by the Maryland Department of Environment ("MDE") for the Morgantown Generating Station ("the Plant" or "Morgantown"), located in Charles County, Maryland. The undersigned Environmental Groups, on behalf of their members, also request a public hearing pursuant to COMAR 26.11.03.07.E. The hearing is specifically requested in order to address documentation previously submitted to the Department and attached again hereto[1] demonstrating that the present permit for the Morgantown plant contains emission limits for sulfur dioxide that are insufficiently stringent to ensure that the plant's impacts remain below the health-protective ambient air quality standard established by the Environmental Protection Agency, and which therefore endanger human life and health and constitute impermissible "air pollution" as that term is defined in Maryland's regulations.

I. SUMMARY OF COMMENTS

Morgantown's Proposed Permit fails, in several key respects, to require performance consistent with the Clean Air Act ("CAA" or "the Act") and Maryland's State Implementation Plan ("SIP") and monitoring sufficient to ensure compliance with applicable law. Specifically,

[1] Attached as Exhibit 1.

Environmental Groups have the following concerns with the Proposed Permit, each discussed in greater detail below:

(1) The Proposed Permit fails to include numerical emission limits sufficient to ensure Morgantown will not cause exceedances of the health-protective one-hour sulfur dioxide national ambient air quality standard; consequently the Proposed Permit fails to include emission limits sufficient to assure the facility will not cause "air pollution" in violation of the Maryland SIP;

(2) The Proposed Permit fails to expressly require that Morgantown comply with emissions standards for opacity during startup, shutdown and malfunction events;

(3) The Proposed Permit fails to consider both filterable and condensable particulate matter ("PM") when determining compliance with its PM emissions limitations;

(4) The Proposed Permit fails to require monitoring sufficient to assure compliance with PM and opacity limits at Units F1 and F2;

(5) The Proposed Permit must be revised to ensure that the "STAR" system complies with the requirements of its permit to construct; and

(6) The Proposed Permit must clarify how the Mercury and Air Toxics Standards ("MATS") will be met or include a re-opener provision for future modification of the permit to address MATS.

MDE must correct these defects before issuing a final Title V permit for Morgantown.

II. BACKGROUND

A. Factual Background

Morgantown is located in Newburg, Charles County, Maryland. The Plant operates two coal-fired boilers rated at 640 MW each, four auxiliary boilers firing No. 2 fuel oil and six combustion turbines firing No. 2 fuel oil. A coal barge unloader system, a gypsum barge loading system, a coal blending system, and a Staged Turbulent Air Reactor (STAR) fly-ash beneficiation facility are also located at the station. *See* MDE Permit Fact Sheet at 1 (hereinafter "Fact Sheet").

Morgantown's current Title V permit was issued on February 1, 2009 and will expire on September 30, 2013. In October 2012, MDE received an application from the Plant for renewal of its Title V permit. *Id* at 2. A completeness determination letter was sent to NRG Energy, Inc. on November 1, 2012 granting Morgantown Generating Station an application shield. The

Proposed Permit was then issued by MDE for notice and comment on August 21, 2013. The comment period is open until September 19, 2013, making this submission timely.[2]

The Environmental Integrity Project is a nonpartisan, nonprofit organization established in March of 2002 by former EPA enforcement attorneys to advocate for more effective enforcement of environmental laws.

The Sierra Club is the oldest and largest grassroots environmental group in the United States, with approximately 600,000 members nationally, including over 13,000 members in Maryland. The Sierra Club's mission is 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; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives. To this end, the Sierra Club has been deeply engaged in air quality issues in Maryland with particular focus on the health-related air quality impacts of the State's remaining coal plants.

The Chesapeake Climate Action Network (CCAN) is the first and only regional, grassroots non-profit organization dedicated exclusively to raising awareness about the impacts and solutions associated with global warming in Maryland, Virginia, and Washington, D.C. CCAN was founded in 2002 in order to combat climate change through a transition to clean energy generation in the mid-Atlantic region. The education and mobilization of citizens in order to create a societal switch towards clean energy solutions and away from fossil fuel energy generation is the centerpiece of CCAN's mission. CCAN's efforts to transition to a clean energy-powered society include ensuring that fossil fueled-powered facilities, such as coal-fired power plants, do not threaten public health or the environment through emissions of dangerous and toxic air pollutants. CCAN also encourages and advocates for local citizen engagement in the Clean Air Act Title V permitting process across the region, in order to ensure local concerns over air pollution are taken into account and that the air quality permits provide for the strongest emission limits possible to protect public health and the environment.

The groups' members enjoy and are entitled to the benefits of natural resources including air, water and soil; forests and cropland; parks, wilderness areas and other green space; and flora and fauna, all of which are negatively impacted by pollutants from the Morgantown Plant, which emits thousands of tons of sulfur dioxide, hundreds of tons of nitrogen oxides, and millions of tons of carbon dioxide annually.[3]

B. Regulatory Background

i. THE CLEAN AIR ACT'S TITLE V OPERATING PERMIT PROGRAM AND MARYLAND'S STATE IMPLEMENTATION PLAN.

[2] http://www.mde.state.md.us/programs/Permits/AirManagementPermits/TitleVProgramInformation/Pages/title5draftpermits.aspx

[3] EPA Clean Air Markets Database, Query, Annual 2008- June 2013 Emissions from Morgantown Facility.

All major stationary sources of air pollution are required to apply for operating permits under Title V of the CAA. *See* 42 U.S.C. § 7661a(a) ("[I]t shall be unlawful . . . to operate . . . a major source . . . except in compliance with a permit issued by a permitting authority under this subchapter."). Title V permits must provide for all federal and state regulations in one legally enforceable document, thereby ensuring that all CAA requirements are applied to the facility and that the facility is in compliance with those requirements. *See* 42 U.S.C. §§ 7661a(a) and 7661c(a); 40 C.F.R. § 70.6(a)(1). Essentially, these permits must include emission limitations and other conditions necessary to assure continuous compliance with all applicable requirements of the CAA, including the requirements of the applicable SIP. *See id*. Specifically, permits must contain monitoring, recordkeeping, reporting, and other requirements to assure continuous compliance by sources with all existing applicable emission control requirements. *See* 40 C.F.R. § 70.6(a)(3). It is unlawful for any person to violate any requirement of a Title V operating permit. *See* 42 U.S.C. § 7661(a).

A Title V permit is issued for a term of no more than five years, 40 C.F.R. § 70.6(a)(2), with a timely and complete application for renewal filed by the source at least six months prior to the date of permit expiration. 40 C.F.R. § 70.5(a)(1)(iii). Once a complete renewal application has been submitted, the existing permit governs the source's operation until the application is acted upon by the permitting agency. *See* 40 C.F.R. § 70.7(b); 40 C.F.R. § 70.7(a)(2) ("[T]he program shall provide that the permitting authority take final action on each permit application (including a request for permit modification or renewal) within 18 months . . . after receiving a complete application."). Permit renewals are subject to the same procedural requirements, including those for public participation and EPA review, which apply to initial permit issuance. *See* 40 C.F.R. § 70.7(c)(1)(i).

Authority has been delegated to Maryland, through MDE, to administer the Title V operating permit program within the state. The Title V operating permit program is found at Title 26, Subtitle 11 Chapter 03 of the Maryland Code ("COMAR"). The CAA, federal regulations, and Maryland regulations require that Title V Permits include enforceable emission limitations and standards and such other conditions as are necessary to assure compliance with all applicable requirements at the time of permit issuance.[4] *See* 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(1); COMAR 26.11.03.05. The term "all applicable requirements" includes both state and federal standards or other requirements under the CAA, including requirements that have been promulgated or approved by EPA through rulemaking at the time of issuance of a permit but have future effective compliance dates, as well as standards provided for in Maryland's SIP that are effective at the time of permit issuance. *See* COMAR 26.11.02.01.B(6)(a); 40 C.F.R. § 70.2;.

In addition to emission limitations and standards, each Title V permit must contain sufficient monitoring, recordkeeping, reporting, and inspection and entry requirements to assure compliance with those limits. *See* 40 C.F.R § 70.6(a)(1), § 70.6(a)(3), and § 70.6(c)(2); *see also* COMAR 26.11.03.06. Monitoring requirements must "assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement."

[4] Indeed, EPA may not approve a state's Title V program unless it is persuaded that the permitting authority will "assure that upon issuance or renewal permits incorporate emissions limitations and other requirements in an applicable implementation plan." 42 U.S.C. § 7661a(b)(5)(C).

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). Further, permits must contain "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); 40 C.F.R. § 70.6(c)(2)(iv) (requiring that substances and parameters are to be sampled and monitored at reasonable intervals so as to assure compliance with the permit or applicable requirements); *see also* COMAR 26.11.03.06.C(3). In instances where governing regulations set forth monitoring requirements inadequate to ensure compliance with certain applicable standards, the Title V permit must supplement those requirements to the extent necessary to ensure compliance with the permit's terms and conditions.

ii. FEDERAL REGULATION OF SULFUR DIOXIDE IN MARYLAND

Under the CAA, EPA is required to promulgate National Ambient Air Quality Standards ("NAAQS") for SO_2 and other criteria pollutants to protect public health and welfare. 42 U.S.C. § 7409. Pursuant to Section 109 of the CAA, the NAAQS are standards requisite to protect the public health, allowing an adequate margin of safety. *Id.* § 7409(b). In June of 2010, EPA issued a new SO_2 NAAQS, recognizing that the prior 24-hour and annual SO_2 standards did not adequately protect the public against adverse respiratory effects associated with short term (5-minute to 24-hour) SO_2 exposure. Final Rule, Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 Fed. Reg. 35,520 (June 22, 2010) (hereinafter "Final Rule").

The 2010 SO_2 NAAQS is a one-hour standard set at 75 parts per billion (ppb) (equivalent to 196.2 micrograms per cubic meter). 40 C.F.R. § 50.17(a). The standard was established in the form of the three-year average of the 99^{th} percentile of the annual distribution of the daily maximum one-hour average concentrations. *Id* at § 50.17(b). Due to both the shorter averaging time and the numerical difference, the one-hour SO_2 NAAQS is far more stringent than the prior SO_2 NAAQS and is projected to have enormous beneficial effects for public health—EPA has estimated that 2,300 to 5,900 premature deaths and 54,000 asthma attacks a year will be prevented by the standard. Envtl. Prot. Agency, *Final Regulatory Impact Analysis (RIA) for the SO_2 National Ambient Air Quality Standards (NAAQS) tbl. 5.14* (2010), www.epa.gov/ttnecas1/regdata/RIAs/fso2ria100602full.pdf. Put another way, the presence of concentrations of SO_2 air pollution above the standard in the NAAQS causes thousands of premature deaths and tens of thousands of asthma attacks every year.

In its final rule, EPA recognized the "strong source-oriented nature of SO_2 ambient impacts," Final Rule, 75 Fed. Reg. at 35,370, and concluded that the appropriate methodology for purposes of determining compliance, attainment, and nonattainment with the new NAAQS is modeling. *See* Final Rule, 75 Fed. Reg. at 35,551 (describing dispersion modeling as "the most technically appropriate, efficient, and readily available method for assessing short-term ambient SO_2 concentrations in areas with large point sources"). In promulgating the SO_2 NAAQS, EPA explained further that, for the one-hour standard, "it is more appropriate and efficient to principally use modeling to assess compliance for medium to larger sources . . . ." *Id.* at 35,570; *see also Montana Sulphur & Chemical Co. v. EPA*, 666 F.3d 1174 (9th Cir. 2012) (affirming use of modeling to ascertain SO_2 pollution impacts); U.S. EPA, Final Response to Petition From

New Jersey Regarding SO_2 Emissions From the Portland Generating Station, 76 Fed. Reg. 69,052 (Nov. 7, 2011) (using modeling to set emission limits sufficient to prevent air pollution).

In Maryland, SO_2 emissions from facilities such as Morgantown are directly regulated through Title V ("Part 70") permits. Maryland regulations provide that "[f]or all major sources, the Department shall include in the Part 70 permit for a source all applicable requirements of the Clean Air Act for all relevant emission units at the major source." COMAR 26.11.03.05 ("Content of Part 70 Permits—General Requirements."). "Applicable requirement of the Clean Air Act" is defined as:

> all of the following as they apply to emissions units in a Part 70 source, including requirements that have been promulgated or approved by EPA through rule making, at the time of issuance of the permit. . . .
>
> (a) A standard or other requirement provided for in the Maryland State Implementation Plan (SIP).

COMAR 26.11.02.01.B(6) ("Definitions").

In February 2013, Maryland's SIP was revised to incorporate updates to the NAAQS automatically.[5] Accordingly, the 2010 SO_2 NAAQS is part of Maryland's federally approved SIP. Further, under COMAR 26.11.06.08 "[a]n installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created." Under COMAR 26.11.06.09, "[a] person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created. "Air pollution," as defined in Environment Article § 2-101, means "the presence in the outdoor atmosphere of substances in quantities, having characteristics, and being of a duration which, from any single source or in combination with other sources, are, or may be predicted with reasonable certainty to be, injurious to human . . . life . . ., or which unreasonably interfere with the proper enjoyment of the property of others by reason of the emission of odors, solids, vapors, liquids, or gases, throughout the State and in such areas of the State that are affected by them." COMAR 26.11.01.01.B(2) (emphasis added). As discussed in more detail below and consistent with the interpretation of analogously worded regulations in other states, an exceedances of a primary NAAQS is a per se condition of "air pollution."[6]

iii. FEDERAL REGULATION OF PARTICULATE MATTER.

Particulate matter is treated under the CAA as two distinct air pollutants: PM_{10} (PM that is equal to or less than 10 micrometers in diameter) and $PM_{2.5}$ (PM that is equal to or less than 2.5 micrometers in diameter). *See* National Ambient Air Quality Standards, *available at* http://www.epa.gov/air/criteria.html. Not only do these two pollutants have different physical and behavioral characteristics, *see* EPA "Clean Air Fine Particle Implementation Rule" 72 Fed. Reg. 20586, 20599 (April 25, 2007) ("$PM_{2.5}$ . . . differs from PM_{10} in terms of atmospheric

[5] 78 Fed. Reg. 9,593 (Feb. 11, 2013), *available at* http://www.gpo.gov/fdsys/pkg/FR-2013-02-11/html/2013-02928.htm (incorporated into Maryland's SIP at COMAR 26.11.04.02).
[6] *See infra*, Section III.A.

dispersion characteristics, chemical composition, and contribution from regional transport"), PM_{10} and $PM_{2.5}$ pose different levels of risk to human health. While PM_{10} particles are small enough to be inhaled and accumulate in the respiratory system, $PM_{2.5}$ particles, because of their extremely small size, can penetrate deep into the lungs, enter the blood stream, and cross the blood-brain barrier. *See* Basic Information on Fine Particle (2.5) Designations, http://www.epa.gov/pmdesignations/basicinfo.htm. As a result, $PM_{2.5}$ pollution is even more dangerous and can cause even more severe and long-term adverse health effects than PM_{10}. *See* L.K. Fonken et al., *Air Pollution Impairs Cognition, Provokes Depressive-like Behaviors and Alters Hippocampal Cytokine Expression and Morphology*, Molecular Psychiatry 16, 988 (2011), *available at* https://ckm.osu.edu/sitetool/sites/neuroscience/documents/AirPollution.pdf.

On December 14, 2012, EPA revised the annual $PM_{2.5}$ NAAQS by lowering the level to 12.0 $\mu g/m^3$ so as to provide increased protection against health effects associated with long- and short-term exposures (including premature mortality, increased hospital admissions and emergency department visits, and development of chronic respiratory disease) and retaining the 24-hour $PM_{2.5}$ standard at a level of 35 $\mu g/m^3$. *See* National Ambient Air Quality Standards for Particulate Matter (Dec. 14, 2012), http://www.epa.gov/pm/2012/finalrule.pdf.

iv. COMPLIANCE WITH APPLICABLE REQUIREMENTS UNDER TITLE V.

In addition to ensuring that each Title V permit shall include "[e]missions limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance," 40 C.F.R. § 70.6(a)(1), Title V permits must also require adequate monitoring to assure compliance with the terms of the permit and all applicable requirements. These monitoring requirements consist of both "periodic" and "umbrella" monitoring rules. *See generally Sierra Club v. EPA*, 536 F.3d 673 (D.C. Cir. 2011) (discussing these rules). The periodic monitoring rule provides that where an applicable requirement does not, itself, "require periodic testing or instrumental or noninstrumental monitoring," the permit-writer must develop terms directing "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)(B). In other words, if compliance with a given applicable requirement is a condition of the permit, the permit must contain monitoring of a frequency and type sufficient to assure compliance to the emitter, the permitting authority, and to the public.

The "umbrella" monitoring rule, 40 C.F.R. § 70.6(a)(3)(C), backstops this requirement by making clear that permit writers must also correct "a periodic monitoring requirement inadequate to the task of assuring compliance," *Sierra Club*, 536 F.3d at 675. This "gap-filler" makes doubly clear that adequate monitoring is required. *Id.* at 680.

EPA has since affirmed, in a post-*Sierra Club* Title V petition ruling, that these requirements are quite rigorous, making clear that permit writers must develop and "supplement monitoring to assure . . . compliance" on the basis of an extensive record. *In re United States Steel Corp.*, Petition No. V-2009-03, 2011 WL 3533368, at *5 (EPA Jan. 31, 2011). ("The rationale for the monitoring requirements . . . must be clear and documented in the permit record," and adequate monitoring is determined by careful, content-specific inquiry into the

nature and variability of the emissions at issue). Relevant Maryland regulations are in accord: applications must include all relevant compliance information, COMAR 26.11.03.06.C, and the permit, as a whole, must contain compliance certification, testing, monitoring, reporting and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit. *Id.* Thus, where there exists analysis sufficient to determine emissions limits and monitoring requirements to assure compliance with the prohibition on violating ambient air quality standards or causing or contributing to air pollution, those limits must be incorporated in Title V permitting in Maryland.

III. SUBSTANTIVE COMMENTS

Any final Title V permit issued for Morgantown must address and rectify the issues identified below in the Proposed Permit.

A. The Proposed Permit Fails to Include Numerical Emission Limits Sufficient To Ensure Morgantown Will Not Cause Exceedances of the Health-Protective One-Hour SO_2 NAAQS; Consequently the Proposed Permit Fails to Include Emission Limits Sufficient to Assure the Facility Will Not Cause "Air Pollution."

Title V permits must include "[e]missions limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance." *See* 40 C.F.R. §§ 70.6(a)(1), 70.2 ("applicable requirements"); COMAR 26.11.03.06.A(1); 26.11.02.01. Maryland regulations provide that "[a]n installation or premises may not be operated or maintained in such a manner that . . . air pollution is created." COMAR 26.11.06.08. "Air pollution" is defined by regulation as "the presence in the outdoor atmosphere of substances in quantities, having characteristics, and being of a duration which, from any single source or in combination with other sources, are, or may be predicted with reasonable certainty to be, injurious to human . . . life . . . ." COMAR 26.11.01.01.B(2) (emphasis added). Because Maryland's prohibition on "air pollution" is an applicable requirement, *see* COMAR 26.11.02.01.B(6)(a), a proposed permit must include emission limits sufficient to ensure the facility will not cause "air pollution."

The Maryland SIP's prohibition on causing "air pollution" requires that permit for sources be sufficient to ensure that their impacts remain below the NAAQS. The NAAQS are scientifically-informed standards specifying substances in quantities and durations that are expressly designed to be protective of human health. *See* 42 U.S.C. §7409(b)(1). Consequently, for pollutants for which EPA has established NAAQS, such as SO_2, an exceedance of these NAAQS is dispositive of an unsafe level of air pollution—one that is "injurious to human life"—and therefore dispositive of what constitutes "air pollution." To quantitatively protect against "air pollution," an applicable requirement, as required by 40 C.F.R. § 70.6(a)(1) and COMAR 26.11.03.06.A(1), the Morgantown Title V permit must therefore contain numerical emission limits sufficient to ensure that the facility will not cause exceedances of the health-protective one-hour SO_2 NAAQS.

Other states, such as Massachusetts, have properly recognized a violation of a NAAQS to be a per se condition of "air pollution." Based on an analogous prohibition on "air pollution" in

its SIP, the Massachusetts Department of Environmental Protection ("MassDEP") recently issued a draft Title V operating permit for the Mt. Tom Generating Station, located in Holyoke, Massachusetts, containing an explicit permit condition that states: "[i]n accordance with 310 CMR 7.02(7) the Permittee shall demonstrate that the facility does not cause or contribute to a violation of U.S. EPA's one hour SO_2 NAAQS (40 C.F.R. 50.71)." Mt. Tom Draft Permit at 20, attached hereto as Exhibit 2. Like Maryland's COMAR 26.11.06.08 and COMAR 26.11.06.09, Massachusetts's 310 CMR 7.02(7) establishes requirements for instances where "the Department determines that any facility or product manufactured therein has the likelihood of causing or contributing to a condition of air pollution." (emphasis added). Massachusetts has given effect to this prohibition, consistent with the prohibition's plain language, by equating an exceedance of a NAAQS with a condition of "air pollution." Consequently, MassDEP has required the Mt. Tom facility to provide atmospheric dispersion modeling of its SO_2 emissions for analysis and comparison with the NAAQS. *See* Letter from David Howland, Regional Engineer Massachusetts Dept. Envtl. Prot. To Mr. Howard Person, Plant Manager, Mt. Tom Generating Station (Feb. 21, 2013). Specifically, the plant must demonstrate via modeling that it will not violate the 1-hour SO2 NAAQS. *Id.* Further, in the case of other pollutants, MassDEP has "rel[ied] upon the NAAQS to determine whether [a] plant will cause or contribute to a condition of air pollution." *See I/M/O Palmer Renewable Energy, LLC*, OADR Dkt. No. 2011-021 & 022, 2012 WL 5377276, at *19 (Mass. Dep't Env. Prot. July 9, 2012) (hereinafter "Palmer Renewable Energy") (For fine particulate matter, "MassDEP's approach is to examine whether the facility's modeled emissions combined with background ambient levels will exceed the NAAQS.").

In the case of the Morgantown plant, air dispersion modeling conducted by an expert modeler and submitted to the Department in August 2013 demonstrates that the emission limitations in the current permit—limits which have been carried over to the Proposed Permit—are insufficiently stringent to ensure that the plant's impacts remain below the one-hour SO_2 NAAQS and therefore do not cause or contribute to a condition of "air pollution." Specifically, Sierra Club commissioned expert modeling of Morgantown's maximum allowable SO_2 emission rate to determine whether authorized SO_2 emissions from the Plant's coal-fired boilers may cause or contribute to violations of the NAAQS.[7] The dispersion analysis was conducted in adherence with all available EPA modeling guidance for evaluating source impacts on attainment of the one-hour SO_2 NAAQS via aerial dispersion modeling, including the AERMOD Implementation Guide; USEPA's Applicability of Appendix W Modeling Guidance for the 1-hour SO_2 National Ambient Air Quality Standard, August 23, 2010; modeling guidance promulgated by USEPA in Appendix W to 40 C.F.R. Part 51; and USEPA's March 2011 Modeling Guidance for SO_2 NAAQS Designations, *available at* http://www.epa.gov/ttn/scram/SO_2%20Designations%20Guidance%202011.pdf.

The modeling results indicate that, at the emission levels allowed by the Proposed Permit, Morgantown would cause violations of the applicable one-hour SO_2 NAAQS, and therefore would cause a condition of "air pollution." *See* COMAR 26.11.06.08, 26.11.06.09. The Proposed Permit limits emissions of SO_2 from the Plant's coal-fired boiler to 3.5 lb/MMBtu, on a 1-hour-hour average. Proposed Permit at 38. Modeling using this allowable emission rate

[7] Sierra Club provided a copy of the Morgantown modeling to MDE on August 5, 2013. The maximum authorized emission rate in both Morgantown's existing and Proposed Permit is 3.5 lbs/MMBtu. Proposed Permit at 38.

predicts peak impacts of 2,234.1 µg/m^3. Morgantown Compliance Modeling at 3. This is eleven times greater than the NAAQS of 196.2 µg/m^3, and represents a level that would unquestionable be injurious to human life.

Modeled One-Hour SO_2 Impacts at Morgantown

Emissions	Highest Projected Concen. (ug/m^3)	Background Concen. (ug/m^3)	Total Concen. (ug/m^3)	NAAQS (ug/m^3)	NAAQS Exceeded?
Allowable[8]	2,234.1	39.2	2,273.3	196.2	YES
Maximum[9]	470.1	39.2	509.3	196.2	YES

The proposed limits are plainly insufficient to assure compliance with applicable requirements. Because the SO_2 emission limits in the Proposed Permit are insufficient to ensure the Morgantown Plant's impacts will remain below the NAAQS and therefore not be injurious to human life, in violation of COMAR 26.11.06.08 and 26.11.06.09, the SO_2 limits must be revised in the final permit. Title V permits must accomplish the critical task of identifying all applicable requirements for a facility and translating these applicable requirements into clearly defined compliance obligations. Where a permit fails to define compliance obligations in a manner that enables a determination of whether applicable requirements are being met, the permit is inadequate.

Based on the modeling analysis, a reduction in permitted SO_2 emissions of at least 93.0% is required to ensure that ambient concentration levels of SO_2 will not cause a condition of air pollution. *See* Morgantown Compliance Modeling at 4. In other words, to ensure that the Title V Permit will assure compliance with the applicable requirements found at COMAR 26.11.06.08 and 26.11.06.09, the Plant's Title V Permit must contain a facility-wide SO_2 emissions limit that is at least as restrictive as 2615.5 lbs/hr (or 0.25 lbs/MMBtu), based on a one-hour averaging time. *See id.*

There is no impediment to MDE implementing such enforceable limitations in the context of this Title V permit renewal. EPA has stated that "a state agency has the authority . . . to do any analysis it deems necessary to ensure compliance with the [Clean Air] Act and the Rules." *I/M/O Hercules, Inc.*, Petition IV-2003-01, 2004 (Nov. 10, 2004) at 8. Moreover, the state agency "has the authority to include and/or revise emission limitations, i.e., numerical limits and/or equipment or operation or maintenance requirements, in the applicable air quality permit." *Id.* Indeed,, other states—such as Massachusetts—have incorporated enforceable short-term modeling-informed emissions limits in the context of Title V permit renewals. Where there is evidence to show that the NAAQS will be violated, MDE must adjust the emissions limits in the Plant's Title V permit to levels that will assure compliance.

Based on the permit record, there is no indication that MDE assessed the Proposed Permit's SO_2 emission limits specifically to ensure that Morgantown would comply with COMAR 26.11.06.08 and 26.11.06.09. Rather, the SO_2 emissions limits for the Plant in the Proposed Permit are identical to those contained in the previous permit, which expert air dispersion modeling has demonstrated are insufficient to keep Morgantown's ambient SO_2

[8] Allowable emissions are based on the emissions limits in the Proposed Permit.
[9] Maximum emissions are the reported hourly rates for 2012 in USEPA, Clean Air Markets - Data and Maps.

impacts below the NAAQS and out of the realm of harmful "air pollution." Where there is refined air dispersion modeling showing that the Proposed Permit allows for violation of COMAR 26.11.06.08 and 26.11.06.09 by permitting SO_2 emissions at levels which violate the applicable one-hour SO_2 NAAQS and are injurious to human life, the Proposed Permit is in violation of the CAA and its implementing regulations and cannot be finalized as drafted. The Proposed Permit must be amended to include SO_2 emission limitations and standards specifying emission rates with averaging times sufficient to protect against "air pollution" by assuring continuous compliance with the 1-hour SO_2 NAAQS. *See* COMAR 26.11.04.02; 26.11.06.08 and 26.11.06.09; 40 C.F.R. §§ 70.6(a)(1), 70.2.

B. The Permit Must Expressly Require that Morgantown Comply With Emissions Standards for Opacity During Startup, Shutdown And Malfunction Events

EPA has a long-held policy that air quality based emission limits apply at all times, including during Startup, Shutdown and Malfunction ("SSM") events.[10] In a memorandum disallowing blanket exemptions from compliance with SIP limits during SSM events, EPA notes that "because excess emissions might aggravate air quality so as to prevent attainment or interfere with maintenance of the ambient air quality standards, *EPA views all excess emissions as violations of the applicable emission limitation.*"[11] In its proposed SSM rule,[12] EPA has further clarified and affirmed its position that emissions from planned activities within the control of the plant operators are not to be granted exemptions:

> Like startup and shutdown, the EPA considers all of these [automatic or discretionary exemptions from otherwise applicable emission limitations during periods such as ''maintenance,'' ''load change,'' ''soot blowing,'' ''on-line operating changes,'' or other similar normal modes of operation] to be phases of normal operation at a source, for which the source can be designed, operated, and maintained in order to meet the applicable emission limitations and during which a source should be expected to control and minimize emissions. Accordingly, exemptions for emissions during these periods of normal source operation are not consistent with CAA requirements. Excess emissions during planned and predicted periods should be treated as violations of the applicable emission limitations.

78 Fed. Reg. 12,460, 12,478 (Feb. 22, 2013). Yet, the proposed Morgantown permit improperly includes a more lax opacity standard for Boiler units F1 and F2, the FGD system, combustion turbines F-CT1 through F-CT6, and auxiliary boilers F-Aux1, F-Aux3, and F-Aux4 during "load

[10] *See, e.g.*, Memorandum from John B. Rasnic, Dir., Stationary Source Compliance Div., U.S. Envtl. Prot. Agency, on Automatic Blanket Exemptions for Excess Emissions during Startup and Shutdowns Under PSD to Linda M. Murphy, Dir., Air, Pesticides & Toxics Mgmt. Div., U.S. Envtl. Prot. Agency (Jan. 28, 1993).

[11] Memorandum from Steven A. Herman, Asst. Adm'r for Enforcement & Compliance, U.S. Envtl. Prot. Agency, on State Implementation Plans: Policy Regarding Excess Emissions during Malfunctions, Startup, and Shutdown to Regional Administrators, Regions I-X (Sept. 20, 1999) (emphasis added) *available at* http://www.epa.gov/ttn/caaa/t5/memoranda/exemmpol092099.pdf.

[12] To be finalized in October, prior to the finalization of the Morgantown Title V permit.

changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment." Proposed Permit at 37, 64, 86, 90, 94. Moreover, the auxiliary boilers are exempted from particulate matter, opacity standards, and Hazardous Air Pollutant (HAP) emissions "during periods of startup, shutdown and malfunction." Proposed Permit at 94, 103. These relaxed standards and exemptions are contrary to the CAA as clarified by EPA's proposed SSM rule, and must be eliminated from the final permit.

C. The Proposed Permit Should Be Revised to Require that Condensable PM Is Considered When Determining Compliance with the Plant's Particulate Matter Emissions Limitations.

Consideration of both filterable and condensable PM is essential to ensure that the Plant is complying with all applicable requirements and that public health is adequately protected. As currently proposed, the permit regulates only filterable PM emissions from the Plant. *See* Proposed Permit at 71, 73-75. This is inadequate. The permit's exclusion of condensable PM from any compliance standard or emission limit is insufficient to assure prevention of harmful "air pollution"—an applicable requirement with which the limitations and standards of the Title V permit must assure compliance.

Condensable PM is a common component of both PM_{10} and $PM_{2.5}$ and, therefore, the primary PM_{10} and $PM_{2.5}$ NAAQS include consideration of both the filterable and condensable fractions of PM. *See* EPA Website, http://www.epa.gov/airquality/particlepollution/ (stating that, with regard to the NAAQS, "'[p]articulate matter,' also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets.") (emphasis added). Consequently, the Plant's final permit must indicate that both forms of particulates are considered when determining compliance with PM emissions limitations. Unless the Proposed Permit is revised to include consideration of condensable PM, a significant portion of the Plant's PM emissions will be unaccounted for, resulting in incomplete and invalid PM emissions data. Accordingly, the Morgantown Station's final Title V permit must be revised so that the PM emission limits and standards contained therein consider both filterable and condensable PM.

D. The Proposed Permit Does Not Require Monitoring Which Assures Compliance with PM and Opacity Limits at Units F1 and F2

The Proposed Permit requires that Morgantown demonstrate compliance with PM emission limits through annual stack testing and through PM continuous emission monitors (CEMS). Proposed Permit at 59. But the draft language also provides that any violations that are identified through PM CEMS are "subject to §2-611 of the Environmental Article." That section of the Environment Article states that a person "is not subject to action for violation of this title or any rule or regulation adopted under this title," so long as a compliance plan is submitted and approved by the Secretary. Section 2-611 requires that the Secretary act on any plan within 90 days, "with or without amendments" recommended by the Air Management Administration.

Section 2-611 has not been approved into Maryland's SIP (40 C.F.R. § 52.1070) and is not federally authorized because it could be used to weaken or undermine federally approved

emission limits under the Clean Air Act. Additionally, Section 2-611 provides no definition of a "compliance plan." Because it restricts the state's discretion to pursue enforcement for failure to meet emission limits where appropriate, this provision does not "assure compliance" with PM emission limits, as Title V requires. MDE also does not have authority to limit the ability of citizens or the federal government to enforce federal emission limits in Title V permits.

This issue is particularly important if continuous monitoring of particulates is intended to replace opacity limits that would normally apply to Morgantown. If that is true, then MDE is effectively eliminating an enforceable requirement (opacity), while preventing the EPA or citizens from using PM CEMS data to enforce particulate matter emission limits. The Proposed Permit cites to a state consent decree to justify these provisions. But while the opacity requirements at issue are part of the federal State Implementation Plan, the consent decree is not, and its provisions may, therefore, not be used to weaken or eliminate SIP approved opacity limits.

The Fact Sheet suggests that opacity is an accurate and superior means of measuring ESP performance. If that is true, the facility should be required to continue monitoring and reporting opacity, and to meet the opacity limits established under the SIP.

E. The Proposed Permit Must Be Revised to Ensure that the "STAR" System Complies With the Requirements of its Permit to Construct

The Morgantown facility has installed a system for capturing fly ash and reducing its carbon content to make it easier to recycle. Construction of the "STAR" system was authorized by the Maryland Public Service Commission (PSC) on January 14, 2011, based in part on an understanding that any emission increases would not be significant enough to require a PSD permit. *See* Proposed Order of PSC Hearing Examiner at 8 (January 14, 2011) ("This chart clearly indicates that emissions from the STAR facility will be at lower levels than the Federal Prevention of Significant Deterioration Thresholds.") ("Proposed Order").[13] Table 1 in the Proposed Order projected that total emission increases of particulate matter would not exceed 7 tons.

The stack test results described on page 86 of the Fact Sheet indicate that the STAR facility will, in fact, exceed the 25 ton "significance" level for particulate matter that triggers PSD permitting requirements if it has not done so already:

(1) The August 8, 2012, stack test measured PM emissions at 10.4 lb per hour, or 45.5 tons per year, well above the PSD threshold.
(2) The test results measured PM emission rates at 0.189 lb/MMBtu, indicating that the heat rate during the state test was approximately 55 MMBtu (10.4 lb/0.189lb/MMBtu = 55 MMBtu). But the Fact Sheet and Proposed Permit indicate the capacity of the reactor alone is 140 MMBtu, indicating that emissions will be significantly higher than 10.4 lb/hour or 45.5 tons/year when the unit is run at or near capacity.
(3) The feed rate during the stack test is 28 tons per hour, but the annual throughput of the STAR unit is projected to be 320,000 tons per year, for an average feed rate of

[13] The Proposed Order is attached hereto as Exhibit 3.

36.5 tons per hour. Again, this data indicates that emissions will likely exceed 10.4 pounds per hour and 45.5 tons per year if the unit runs at or near permitted capacity.

In light of this evidence, the Morgantown Title V permit should include a compliance plan with an expeditious schedule for assuring that the STAR unit will not violate the requirements of the construction permit approved by the Maryland PSC by emitting particulate matter at levels high enough to require a PSD permit.

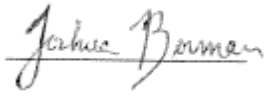
F. The Proposed Permit Must Clarify How the Mercury and Air Toxics Standards (MATS) will be Met or Include a Re-opener Provision For Future Modification of the Permit to Address MATS

The Proposed Permit incorporates the provisions of EPA's new Mercury Air Toxics Standards (MATS). However, the MATS rule provides utilities with a menu of options that allow selection from among different limits and different monitoring methods. As written, the Proposed Permit does not provide sufficient information regarding the monitoring methods that will be required at the Morgantown plant. The MATS rule does not take effect until sometime between spring of 2015 and 2016. However, the Morgantown Title V permit will not be renewed again until 2018, and the plant must comply with MATS when it takes effect. Therefore, MDE must either set requirements in the permit at this time defining how the MATS rule will be met or it must include a re-opener condition providing for modification of the permit, including public review, to set conditions for MATS compliance before the rule takes effect.

IV. CONCLUSION

For the foregoing reasons, the Proposed Permit for the Morgantown Plant is insufficient to meet the standards required by law and must be amended as described above and re-noticed for public comment before any final permit issues.

Respectfully submitted,



Joshua Berman
Tamara Evans
Sierra Club
50 F Street NW, Eighth Floor
Washington, DC 20009
Tel.: 202.650.6062
E-mail: josh.berman@sierraclub.org

Leah Kelly
Environmental Integrity Project
1 Thomas Circle, Suite 900
Washington, DC 20005

Tel: 202.263.4448
E-mail: lkelly@environmentalintegrity.org

Diana Dascalu-Joffe
Chesapeake Climate Action Network
6930 Carroll Ave, Suite 720
Takoma Park, MD 20912
Tel: 240.396.1984
E-mail: diana@chesapeakeclimate.org

Kathryn M. Amirpashaie
Law Office of Kathryn M. Amirpashaie, PLC
7556 Blanford Court
Alexandria, VA 22315
Tel.: 703.851.9111
E-mail: kmalawoffice@gmail.com

ENVIRONMENTAL INTEGRITY PROJECT

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

December 5, 2013

Via E-mail and Certified Mail Return Receipt
Shannon Heafey
Title V Coordinator
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

RE: Morgantown Generating Station Title V/Part 70 Permit Renewal (Permit No. 24-017-0014)

Dear Ms. Heafey:

The Environmental Integrity Project (EIP) and the Chesapeake Climate Action Network (CCAN) thank you for the opportunity to submit comments on the draft Title V permit (Draft Permit or Permit) for the coal-fired power plant called the Morgantown Generating Station operated in Newburg, Maryland by NRG Energy, Inc. (NRG). We appreciate the considerable effort that the Maryland Department of Environment (MDE) has made to organize and explain the requirements for this facility, and to make emission limitations and monitoring methods reasonably transparent for the public. Our specific comments are as follows:

I. MDE Must Revise the Permit to Include a Sulfuric Acid Emissions Limit and Compliance Demonstration Monitoring Method For Units 1 and 2

In 2007, Mirant Mid-Atlantic, LLC, which owned the Morgantown plant at that time, received a Certificate of Public Convenience and Necessity (CPCN) from the Maryland Public Service Commission (PSC) for installation of a wet scrubber at the Morgantown plant. Condition 86 of that CPCN prohibits Units 1 and 2 (Emissions Units F1 and F2 respectively) at the plant from emitting more than 1,194 tons per year of sulfuric acid mist (SAM) during any rolling 12- month period. Attachment A (CPCN conditions p. 1, 25). However, that limit is not set forth in the Permit nor is it incorporated by reference into the Permit. This Permit must be revised to include this limit.

Additionally, Title V permits must include "monitoring, compliance certification, and reporting requirements sufficient to assure compliance with the permit terms and conditions" 42 U.S.C. §7661c(c). Condition 86(b) of the CPCN required Mirant to develop a methodology for monitoring SAM emissions from Units 1 and 2 and to submit that methodology to MDE for approval. It appears, based on the PSC's online docket, that Mirant submitted a proposed monitoring method for SAM emissions in December of 2009. Document No. 95 (ML 122053), PSC Online Docket, Case No. 9085. However, the Permit does not require *any* monitoring for

100% PCW 21 PRINTED WITH SOY INK

SAM emissions from Units 1 and 2.[1] MDE must revise the Permit to include a monitoring method sufficient to assure compliance with the emission limit for SAM set forth in CPCN Condition 86.

II. MDE Must Modify the Permit When it Selects the Emission Limits and Monitoring Methods Used to Comply with the new MACT Rule and Provide an Opportunity for Public Review

When MDE selects the specific emission limits and monitoring methods that will apply to the Morgantown plant under 40 C.F.R. Part 63 Subpart UUUUU (MACT Rule or Rule), MDE must modify the permit to identify those limits and monitoring methods, and it must provide the public with notice and an opportunity to comment on this modification.

The MACT Rule allows a choice among different emission limits and monitoring methods. The Permit does not identify which specific limits and monitoring methods will apply to the Morgantown Plant, which is understandable as some of these issues are being litigated. However, when MDE does select which limits and monitoring methods apply, it must modify the Permit to identify those limits and methods. This will constitute a significant modification, which, under Maryland's State Implementation Plan (SIP), must be subject to public review. COMAR 26.11.03.17(D).

III. MDE May Not Permit NRG To Use Certain Options Which Are Allowed Under the MACT Rule

MDE may not allow NRG to use certain options at the Morgantown plant which are set forth under the MACT Rule. The MACT Rule allows permittees to choose among multiple emission limits and compliance demonstration methods, and the current federal regulations are incorporated into the Morgantown Permit. Permit at 69-86. However, a number of these methods are currently being challenged in the D.C. Circuit for failure to comply with the Clean Air Act. Specifically, MDE may not allow: (1) averaging of emissions for mercury and other pollutants among adjacent existing units under common ownership ("Averaging Alternative"); (2) reliance on continuous parametric monitoring of particulates (the surrogate for non-mercury metals) for demonstrating compliance with emission limits for non-mercury metals ("Parametric Monitoring Alternative"); and (3)monitoring requirements for "low emitting units," as defined in the Rule, to demonstrate compliance with a 30-day emission limit for non-mercury metals through infrequent stack testing. For a full discussion of the ways in which each of these methods violates the Clean Air Act, please see the Corrected Final Opening Brief of Environmental Petitioners, U.S. Court of Appeals for the District of Columbia ("USCA") Case No. 12-1194, Document No. 1431365 (April 17, 2012) and the Final Reply Brief of Environmental Petitioners, USCA Case No. 12-1194, Document No. 1429602 (April 8, 2013). Key arguments are summarized below.

[1] NRG appears to be reporting SAM emissions in its quarterly Air Quality Compliance Reports for the second and fourth quarters. However, the Clean Air Act requires that the monitoring/reporting requirement be set forth in the Permit.

A. MDE May Not Allow NRG to Use the Averaging Alternative

The MACT Rule provides a "compliance alternative" that allows adjacent existing units under common ownership to combine their emissions rates into a single, multi-unit average. Plant owners may "averag[e] the emissions from an individual affected [unit] that is emitting above the ... limits with other affected [units] at the same facility that are emitting below the ... limits." 40 C.F.R. § 63.10009(a)-(j)). This is unlawful because, by extending the averaging period, it relaxes the standards' stringency below the statutory minimum known as the "MACT floor," representing the "minimum stringency" permitted by 42 U.S.C. §7412(d)(3)(A). Further, EPA has provided no rational basis in its rulemaking for its refusal to provide a "discount factor" in the Rule, either to maintain the stringency of its standards as required by CAA §112(d)(3), or under CAA§112(d)(2)'s "beyond-the-floor" requirements, 42 U.S.C. §7412(d)(2). MDE may not allow NRG to rely on the Averaging Alternative.

B. MDE May Not Allow NRG to Use the Parametric Monitoring Alternative to Demonstrate Compliance with Emission Limits for Non-Mercury Metals

Under the Parametric Monitoring Alternative, sources demonstrate compliance with the non-mercury metal standard through annual stack tests, but between annual stack tests are allowed to comply with an operating limit that correlates to the highest single hour of recorded emissions from the most recent stack test. Annual stack test compliance determinations are based on the *average* of emissions measured during the nine-hour test, but the parameter used to demonstrate compliance between stack tests may exceed the emission standard because the operating parameter corresponds to the *highest* hour of emissions from the most recent annual test, even if emissions during that hour were *above* the limit, 77 Fed.Reg. at 9,481 (40 C.F.R. §63.10023). Because the parameter used to demonstrate compliance between annual stack tests may exceed the standard and allow emissions above the applicable limit the Parametric Monitoring Alternative does not "provide a reasonable assurance of compliance with" the standard, as it must. *Sierra Club v. EPA*, 353 F.3d 976, 990-91 (D.C. Cir. 2004) (quoting *NRDC v. EPA,* 194 F.3d 130, 136 (D.C. Cir.1999); 42 U.S.C. § 7661c(b). MDE may not allow NRG to use this method for demonstrating compliance with the non-mercury emission limit under the MACT Rule.

C. MDE May Not Allow NRG to Demonstrate Compliance With Emission Limits for Non-Mercury Metals Through Infrequent Stack Testing

The MACT Rule allows sources that show compliance with the non-mercury metals standard through quarterly stack testing (or, in the case of "low-emitting units", testing once every three years) not to take any additional steps to demonstrate compliance with the 30-day standard in between stack tests. 77 Fed.Reg. at 9,371, 9,384; 40 C.F.R. §§ 63.10000(c)(1)(iv), (v). Sources qualify as low emitting, and are only required to stack test once every three years, if their emissions are 50 percent of the limit or less during three successive years of stack testing. 40 C.F.R. §§ 63.10000(c)(1)(i), 63.10005(h)(1). This procedure for designating "low emitting" units does not assure that those sources will comply during the three years that separate their stack tests. This rule violates the Clean Air Act because such infrequent stack testing cannot "provide a reasonable assurance of compliance with emissions standards," especially given EPA's determination that stack test

results are highly variable. *Sierra Club*, 353 F.3d at 990-91; 42 U.S.C. § 7661c(b). MDE may not allow NRG to demonstrate compliance with the non-mercury metals emission limit in this way.

IV. MDE Should Consider Additional Measures for Reducing Impacts from the Plume at the Main Stack

The plume from the main stack at the Morgantown plant has been of concern to nearby residents since the scrubber was first proposed. Attachment B to these comments is a report by Dr. Ranajit (Ron) Sahu[2] which identifies a number of options for addressing opacity and condensation impacts from the plume. MDE should carefully consider requiring NRG to implement one or more of these options.

Thank you for considering our comments.

Sincerely,

Leah Kelly
Attorney
Environmental Integrity Project
1000 Vermont Avenue NW, Suite 1100
Washington D.C. 20005
(202) 263-4448
lkelly@environmentalintegrity.org

Diana Dascalu-Joffe
Senior General Counsel/CFO
Chesapeake Climate Action Network
& CCAN Action Fund
6930 Carroll Ave, Suite 720
Takoma Park, Maryland 20912

[2] Dr. Sahu's credentials are attached hereto as Attachment C.

ATTACHMENT A

APPENDIX I

Recommended CPCN Licensing Conditions
Case No. 9085
Mirant Mid-Atlantic, LLC
Morgantown Generating Station Air Pollution Control Project

General

1. Except as otherwise provided for in the following provisions, the application for the Certificate of Public Convenience and Necessity (CPCN) is considered to be part of this CPCN for the Morgantown Air Pollution Control (APC) Project. The application consists of the original application received by the Maryland Public Service Commission (PSC) on November 2, 2006 and an amendment filed by Mirant Mid-Atlantic, LLC (Mirant) on February 6, 2007. Construction of the facility shall be undertaken in accordance with the CPCN application and subsequent amendments. If there are any inconsistencies between the conditions specified below and the application, the conditions in this CPCN shall take precedence; if CPCN conditions incorporate federal or state laws through paraphrased language, where there is any inconsistency between the paraphrased language and the actual state or federal laws being paraphrased, the applicable Federal or State laws shall take precedence.

2. If any provision of this CPCN shall be held invalid for any reason, the remaining provisions shall remain in full force and effect and such invalid provision shall be considered severed and deleted from this CPCN.

3. Representatives of the Maryland PSC shall be afforded access to the Morgantown facility at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the CPCN. Mirant shall provide such assistance as may be necessary to conduct such inspections and evaluations by representatives of the PSC effectively and safely.

4. Representatives of the Maryland Department of the Environment (MDE) and the Charles County Department of Health shall be afforded access to the Morgantown facility at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the CPCN requirements. Mirant shall provide such assistance as reasonably may be necessary to conduct such inspections and evaluations effectively and safely, which may include but need not be limited to the following:

   a) Inspecting construction authorized under this CPCN;

the actual equipment to be installed will be operated in compliance with Maryland noise regulations and with Charles County ordinances related to noise emissions. The analysis shall be submitted to PSC, PPRP and Charles County for review and approval.

Miscellaneous

84. Mirant is subject to the National Emission Standard for Asbestos under 40 CFR 61, Subpart M, specifically the standards for demolition and renovation of 40 CFR 61.145, and COMAR 26.11.21 for demolition activities that occur during the construction of the APC project.

85. Mirant shall consult with the Maryland Transportation Authority to determine the status and/or operating condition of a fog monitoring and warning system for the Governor Harry W. Nice Memorial Bridge. To the extent that the Maryland Transportation Authority identifies the need for detection devices and/or enhancements to the warning system, Mirant shall fund design and installation of the detection devices and/or enhancements to the warning system. If needed, the fog monitoring and warning system shall be implemented prior to the initial operation of the FGD system at Morgantown.

86. Sulfuric acid mist emissions from Units 1 and 2 combined shall not exceed 1,194 tons per year (tpy) in any rolling 12-month cumulative period.

    a. Mirant shall maintain records of monthly and 12-month rolling total emissions of SAM from Units 1 and 2 and submit to ARMA semi-annually by July 30 for the period January 1 through June 30, and by January 30 for the period July 1 through 31 December;

    b. At least 30 days prior to the anticipated date of start-up of the APC systems, Mirant shall provide MDE and the PSC with a plan outlining a methodology for determining SAM emissions from Units 1 and 2. Upon approval from ARMA , Mirant shall implement the SAM emissions estimating protocol.

87. Mirant shall conduct an initial stack emission test to measure sulfuric acid mist (SAM) emissions from Unit 1 and 2 within 180 days of start-up of the FGD system. The stack tests shall be conducted in accordance with 40 CFR 60, Appendix A, Method 8 or an equivalent method approved by MDE.

88. Mirant shall conduct an initial stack emission test to measure condensable particulate matter (CPM) emissions from Unit 1 and 2 within 180 days of start-up

ATTACHMENT B

Options for Reducing Plume Impacts from the Morgantown Generating Station

by
Dr. Ranajit (Ron) Sahu[1]
Consultant

Summary

This report presents recommendations for reducing impacts from the plume at the main stack of the Morgantown Generating Station owned by NRG Energy, Inc. and located in Newburg, Maryland. The approaches recommended in this report are generally applicable to the type of system installed at the Morgantown plant. Developing plant-specific mitigation measures will require a more detailed process assessment, which should include a review of the operating conditions of each unit, the two FGD scrubbers, the sorbent injection system, and the combined exhaust in the common stack, in conjunction with a more systematic observation of the plume and associated ambient conditions.[2]

Discussion

In November 2006, Mirant MidAtlantic, LLC ("Mirant") applied to the Maryland Public Service Commission ("PSC") for a Certificate of Public Convenience and Necessity ("CPCN") to install and operate a wet flue gas desulfurization ("FGD") air pollution control system on the two coal-fired units (Units 1 and 2) at its Morgantown Generating Station. The PSC granted the CPCN in 2007. The control system includes the FGD for SO_2 and mercury control as well as a sorbent injection system for sulfuric acid mist control. The control systems are identical for each unit and the exhaust shares a new 400-foot stack.

From the outset, there was a concern regarding the visible plume from the scrubber exhaust. As the Maryland Department of Natural Resources ("MDNR") noted in its review:

> The addition of a new FGD scrubber at the Morgantown Generating Station will cause a visible plume of condensed water vapor to be emitted from the scrubber

[1] Resume provided as Attachment C to Title V permit comments.
[2] This information is not currently available in the quarterly Air Quality Compliance Reports filed by the Morgantown plant's current owner, NRG Energy.

> exhaust under most atmospheric conditions. This plume will be visible to the public and will be in close proximity to the Governor Harry W. Nice Memorial Bridge spanning the Potomac River connecting Maryland and Virginia.... Among the issues pertaining to human environment that were raised by the public and Maryland officials during review of the Morgantown FGD project was the effect of the visible water vapor plume on bridge operations. Impacts due to the plume on the bridge include visibility reduction and possible ice riming in freezing conditions.[3]

MDNR also stated:

> The results of the AERMOD fogging analysis . . . indicate that although the proposed FGD is predicted to cause visible plumes that will impact the nearby Governor Harry W. Nice Memorial Bridge during some weather conditions, the frequency of these events is not on the level that will adversely affect the bridge operations. Similarly, the AERMOD fogging analyses of the area immediately surrounding the Nice Bridge and the general vicinity of the Cobb Neck peninsula show that nuisance fogging events are not expected to occur with great frequency.[4]

Subsequently, the control systems have been installed and are presently operational. As anticipated, plume impacts from the scrubber exhaust occur regularly. Observations by neighbors indicate varying levels of impacts of the plume, including visibility/opacity impacts and occasional impacts to the Harry W. Nice Bridge ("Bridge").

The impacts from this plume can be viewed in two categories. First, condensable pollutants in the plume, such as condensable sulfuric acid mist (SAM) and potentially other condensable pollutants such as semi-volatile organic compounds, etc., can contribute to opacity, which degrades visibility. Second, the water vapor alone can cause condensation and icing conditions, were the plume to touch down at or near the Bridge. Recommendations for addressing each of these kinds of impacts are below.

Recommendations for Addressing Opacity

If condensable emissions, such as SAM and organics, are contributing to opacity, mitigation measures should be employed to reduce such emissions. These measures can include:

---

[3] DNR No.12-1142009-366, PPRP-148, Alternative Analysis of Fogging/Icing Impacts from a Flue Gas Desulfurization (FGD) System, January 2009, p. 2.
[4] Ibid., p. 20.

1. Reducing the sulfur content of the fuel;
2. Altering process conditions, to the extent practical within the parameters of the existing air pollution control train, to minimize the formation of sulfur trioxide (which leads to the formation of SAM);
3. Altering process conditions to reduce emissions of semi-volatile organics (such as via more complete combustion in the boilers);
4. Improving the functionality of the mist-eliminators after the scrubbers to reduce the carry-over of fine condensables into the stack and beyond;
5. Making design improvements to the control train to minimize and/or eliminate condensable formation. Such improvements could include enhancement of the currently available sorbent injection system (operational details of which were not available in the materials that I reviewed, making it difficult to address the current efficacy of the system); and
6. Considering the addition of control devices specifically designed for the elimination of condensable pollutants such as wet-ESPs.

In order to assess whether condensable emissions are contributing to opacity, the monitoring requirements in the permit should be strengthened as follows:

1. The permit should require monitoring for non-SAM condensable pollutants, such as semi-volatile organics, in order to assess their levels in the stack exhaust and resulting contribution to opacity; and
2. The permit should require detailed reporting of SAM emissions. The permittee is presently only reporting annual SAM emission values in the second and fourth quarter excess emissions reports. Although the levels of SAM being reported are significantly below the allowable limit,[5] it is not clear how these values are being calculated, and the reports do not provide the likely/expected error ranges associated with these reported values. Additionally, the annual emissions values being reported do not clarify the

[5] The Fourth Quarter 2012 Air Quality Compliance Report states that the highest 12-month rolling total of SAM emissions was 20.9 tons compared to an emissions limit of 1,194 tons; and the Second Quarter 2013 report states that the highest 12-month rolling total of SAM emissions was 10.9 tons, also compared to the 1,194-ton limit.

short-term variability of SAM emissions which could potentially be contributing to episodic opacity in the plume. The permit should require the plant operator to address all of these factors in reporting.

Recommendations for Addressing Condensation and Icing

As discussed above, the current plume may not only cause opacity but may also present safety and other hazards due to the condensation of steam. Thus, mitigation of the steam component may also be advisable. Development of mitigation approaches will require, first, the collection of more systematic and detailed data, for a certain time period such as a year, covering a wide range of unit, control-system, plume, and ambient conditions. However, a general set of approaches to reduce moisture include:

1. Improving the design and capabilities of the mist-eliminators at the end of the scrubbers, including exploring the use of additional stages and different orientations. At a minimum, the goal should be to reduce the carry-over of moisture from the scrubbers into the stack to the greatest degree possible;
2. Reducing filterable particulate matter ("PM"), especially fine filterable PM in the sub-micron range, in the exhaust gases to the lowest levels possible so that these fine particles do not present "nucleation" sites that allow and enhance condensation of moisture in the stack exhaust and plume;
3. Exploring methods of lowering stack exhaust gas temperature in order to condense, to the greatest extent possible, the combustion-generated moisture (and, possibly, condensable pollutants) present in the stack gases. The goal would be to ensure that the gases leaving the stack are as dry and free of condensable pollutants as possible. Although technologies for condensing moisture are widely available, using them to treat the expected larger volumes of exhaust gases would present engineering, cost, and operational challenges. However, employing these technologies to reduce moisture would more effectively reduce condensation and icing from the plume than the other options presented here;
4. Exploring methods for re-heating stack gas so that the gas leaving the stack is hotter than the condensation temperature of water vapor and does not cause plume formation

immediately upon exiting the stack. While this may seem inconsistent with the recommendation immediately above to lower stack gas temperatures, this would reduce the impacts of the plume in the immediate vicinity of the plant. However, this is not a preferred approach because instead of eliminating moisture mass from the stack, it merely shifts the plume formation farther away from plant stack. Given local conditions, this approach may not work satisfactorily or may even be problematic if, depending on ambient conditions, the plume is formed detached from the stack but more proximate to sensitive structures, such as the Bridge. Thus, this option, which is worthy of exploration, should be carefully evaluated in terms of off-property impacts before being used.

ATTACHMENT C

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

CONSULTANT, ENVIRONMENTAL AND ENERGY ISSUES

311 North Story Place
Alhambra, CA 91801
Phone: 626-382-0001
e-mail (preferred): sahuron@earthlink.net

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; soils and groundwater remediation; 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.

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, 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.

Dr. Sahu's experience includes various projects in relation to industrial waste water as well as storm water pollution compliance include obtaining appropriate permits (such as point source NPDES permits) as well development of plans, assessment of remediation technologies, development of monitoring reports, and regulatory interactions.

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).

"Discrete Simulation of Cenospheric Coal-Char Combustion," with R.C. Flagan and G.R.Gavalas, *Combust. Flame*, **77**, 337-346 (1989).

"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 Puchase 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. Matters for which Dr. Sahu has have provided depositions and affidavits/expert reports include:

(a) 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

(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 US Department of Justice in connection with the Ohio Edison NSR Cases. *United States, et al. v. Ohio Edison Co., et al.*, C2-99-1181 (S.D. Ohio).

(d) Expert reports and depositions (5/23/2002 and 5/24/2002) on behalf of the US Department of Justice in connection with the Illinois Power NSR Case. *United States v. Illinois Power Co., et al.*, 99-833-MJR (S.D. Ill.).

(e) Expert reports and depositions (11/25/2002 and 11/26/2002) on behalf of the US Department of Justice in connection with the Duke Power NSR Case. *United States, et al. v. Duke Energy Corp.*, 1:00-CV-1262 (M.D.N.C.).

(f) Expert reports and depositions (10/6/2004 and 10/7/2004; 7/10/2006) on behalf of the US Department of Justice 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 (S.D. 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 reports and depositions (10/31/2005 and 11/1/2005) on behalf of the US Department of Justice in connection with the East Kentucky Power Cooperative NSR Case. *United States v. East Kentucky Power Cooperative, Inc.*, 5:04-cv-00034-KSF (E.D. KY).

(i) Deposition (10/20/2005) on behalf of the US Department of Justice in connection with the Cinergy NSR Case. *United States, et* al. *v. Cinergy Corp., et al.*, IP 99-1693-C-M/S (S.D. Ind.).

(j) Affidavits and deposition on behalf of Basic Management Inc. (BMI) Companies in connection with the BMI vs. USA remediation cost recovery Case.

(k) Expert report on behalf of Penn Future and others in the Cambria Coke plant permit challenge in Pennsylvania.

(l) 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.

(m) 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.

(n) 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.

(o) 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).

(p) Affidavit (July 2007) Comments on the Big Cajun I Draft Permit on behalf of the Sierra Club – submitted to the Louisiana DEQ.

(q) Expert reports 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 (W.D. Pennsylvania).

(r) Expert reports and pre-filed testimony before the Utah Air Quality Board on behalf of Sierra Club in the Sevier Power Plant permit challenge.

(s) Expert reports 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 (S.D. Ohio, Western Division)

(t) 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.

(u) 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.

(v) 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).

(w) 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).

(x) Dominion Wise County MACT Declaration (August 2008)

(y) Expert Report on behalf of Sierra Club for the Green Energy Resource Recovery Project, MACT Analysis (June 13, 2008).

(z) Expert Report 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 (February 2009).

(aa) Expert Report and deposition on behalf of MTD Products, Inc., in the matter of Alice Holmes and Vernon Holmes v. Home Depot USA, Inc., et al. (June 2009, July 2009).

(bb) Expert Report 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 (August 2009).

(cc) 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.

(dd) Expert Report (August 2009) and 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).

(ee) Deposition (October 2009) on behalf of Environmental Defense and others, in the matter of challenges to the proposed Coleto Creek coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH). (October 2009).

(ff) Expert Report, Rebuttal Report (September 2009) and 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.

(gg) Expert Report (December 2009), Rebuttal reports (May 2010 and June 2010) and depositions (June 2010) on behalf of the US Department of Justice 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).

(hh) Prefiled testimony (October 2009) and 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).

(ii) 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).

(jj) Written Direct 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.

(kk) Expert report (August 2010) and Rebuttal Expert Report (October 2010) on behalf of the US Department of Justice in connection with the Louisiana Generating NSR Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana) – Liability Phase.

(ll) Declaration (August 2010), Reply Declaration (November 2010), Expert Report (April 2011), Supplemental and Rebuttal Expert Report (July 2011) on behalf of the US EPA and US Department of Justice 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).

(mm) 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.

(nn) 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.).

(oo) 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).

(pp) 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).

(qq) Expert Report, Supplemental/Rebuttal Expert Report, and Declarations (October 2010, September 2012) on behalf of New Mexico Environment Department (Plaintiff-Intervenor), Grand Canyon Trust and Sierra Club (Plaintiffs) in the matter of Public Service Company of New Mexico (PNM)'s Mercury Report for the San Juan Generating Station, CIVIL NO. 1:02-CV-0552 BB/ATC (ACE). US District Court for the District of New Mexico.

(rr) Comment Report (October 2010) on the Draft Permit Issued by the Kansas DHE to Sunflower Electric for Holcomb Unit 2. Prepared on behalf of the Sierra Club and Earthjustice.

(ss) 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.

(tt) 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.

(uu) 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).

(vv) Comment Report (December 2010) on the Pennsylvania Department of Environmental Protection (PADEP)'s Proposal to grant Plan Approval for the Wellington Green Energy Resource Recovery Facility on behalf of the Chesapeake Bay Foundation, Group Against Smog and Pollution (GASP), National Park Conservation Association (NPCA), and the Sierra Club.

(ww) Written Expert 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).

(xx) 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.

(yy) Expert Report (March 2011), Rebuttal Expert Report (Jue 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).

(zz) 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).

(aaa) 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.

(bbb) 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).

(ccc) 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).

(ddd) 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).

(eee) 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).

(fff) Expert Report (March 2012) 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).

(ggg) 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).

(hhh) 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 plan) (Supreme Court of the State of Kansas).

(iii) 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).

(jjj) Expert Report (April 2012), Supplemental and Rebuttal Expert Report (July 2012), and Supplemental Rebuttal Expert Report (August 2012) 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).

(kkk) Declaration (April 2012) in the matter of the EPA's EGU MATS Rule, on behalf of the Environmental Integrity Project

(lll) 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.

(mmm) Expert report (August 2012) on behalf of the US Department of Justice in connection with the Louisiana Generating NSR Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana) – Harm Phase.

(nnn) Expert report (April 2013), Rebuttal report (July 2013), and 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).

(ooo) Expert report (May 2013), Rebuttal report (July 2013), and 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).

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

(ppp) 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."

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

(qqq) In February, 2002, provided expert witness testimony on emissions data on behalf of Rocky Mountain Steel Mills, Inc. in Denver District Court.

(rrr) In February 2003, provided expert witness testimony on regulatory framework and emissions calculation methodology issues on behalf of the US Department of Justice in the Ohio Edison NSR Case in the US District Court for the Southern District of Ohio.

(sss) In June 2003, provided expert witness testimony on regulatory framework, emissions calculation methodology, and emissions calculations on behalf of the US Department of Justice in the Illinois Power NSR Case in the US District Court for the Southern District of Illinois.

(ttt) In August 2006, provided expert witness testimony regarding power plant emissions and BACT issues on a permit challenge (Western Greenbrier) on behalf of the Appalachian Center for the Economy and the Environment in West Virginia.

(uuu) In May 2007, provided expert witness testimony regarding power plant emissions and BACT issues on a permit challenge (Thompson River Cogeneration) on behalf of various Montana petitioners (Citizens Awareness Network (CAN), Women's Voices for the Earth (WVE) and the Clark Fork Coalition (CFC)) before the Montana Board of Environmental Review.

(vvv) In October 2007, provided expert witness testimony regarding power plant emissions and BACT issues on a permit challenge (Sevier Power Plant) on behalf of the Sierra Club before the Utah Air Quality Board.

(www) In August 2008, provided expert witness testimony regarding power plant emissions and BACT issues on a permit challenge (Big Stone Unit II) on behalf of the

Sierra Club and Clean Water before the South Dakota Board of Minerals and the Environment.

(xxx) In February 2009, provided expert witness testimony regarding power plant emissions and BACT issues on a permit challenge (Santee Cooper Pee Dee units) on behalf of the Sierra Club and the Southern Environmental Law Center before the South Carolina Board of Health and Environmental Control.

(yyy) In February 2009, provided expert witness testimony regarding power plant emissions, BACT issues and MACT issues on a permit challenge (NRG Limestone Unit 3) on behalf of the Sierra Club and the Environmental Integrity Project before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.

(zzz) In November 2009, provided expert witness testimony regarding power plant emissions, BACT issues and MACT issues on a permit challenge (Las Brisas Energy Center) on behalf of the Environmental Defense Fund before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.

(aaaa) In February 2010, provided expert witness testimony regarding power plant emissions, BACT issues and MACT issues on a permit challenge (White Stallion Energy Center) on behalf of the Environmental Defense Fund before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.

(bbbb) In September 2010 provided oral trial testimony 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 (W.D. Pennsylvania).

(cccc) Oral Direct and Rebuttal Expert 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).

(dddd) 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.

(eeee) Oral Testimony (October 2010) regarding mercury and total PM/PM10 emissions and other issues on a remanded permit challenge (Las Brisas Energy Center) on behalf of the Environmental Defense Fund before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.

(ffff) 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.

(gggg) 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.

(hhhh) Deposition (December 2010) on behalf of the US Department of Justice in connection with the Louisiana Generating NSR Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana).

(iiii) 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.).

(jjjj) Oral Expert 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).

(kkkk) 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).

(llll) 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.

(mmmm) Oral Testimony at Hearing (March 2012) on behalf of the US Department of Justice in connection with the Louisiana Generating NSR Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana).

(nnnn) 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).

ENVIRONMENTAL INTEGRITY PROJECT

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

July 20, 2015

Via Certified Mail & E-mail

Ms. Shannon Heafey
Air Quality Permits Program
Air and Radiation Management Administration
1800 Washington Blvd., Ste. 720
Baltimore, MD 21230-1720
shannon.heafey@maryland.gov

Dear Ms. Heafey:

The Sierra Club, Chesapeake Climate Action Network, and Environmental Integrity Project ("Environmental Groups") appreciate the opportunity to comment on the new draft Title V permit ("Proposed Permit") for the Morgantown Generating Station ("the Plant" or "Morgantown"), located in Charles County, Maryland. This is the third time that a draft permit has been issued for the same renewal of the Plant's Title V permit. Yet Morgantown's Proposed Permit still fails to address many of the problems pointed out in the Environmental Groups' September 19, 2013 and December 5, 2013 comments on a draft Title V permit for the Plant. Thus, in several key respects, the Proposed Permit is inconsistent with the Clean Air Act ("CAA" or "the Act") and Maryland's State Implementation Plan ("SIP").[1]

A. SUMMARY OF COMMENTS

As described in more detail below, the Proposed Permit suffers from the following problems:

1. The Permit fails to include numerical sulfur dioxide limits which ensure that Morgantown will not cause exceedances of the health-protective one-hour SO_2 national ambient air quality standard ("NAAQS"). Consequently the Permit violates the Maryland SIP by failing to assure the facility will not cause "air pollution" as that term is defined by Maryland law.

[1] The Environmental Groups hereby incorporate by reference their September and December 2013 comments into the present comments. Below, the Environmental Groups summarize several of the Proposed Permit's problems that the Groups previously raised but MDE has failed to correct. By not including in this letter any specifics previously raised in the September and December 2013 comments regarding those problems, the Groups are not waiving those specific details of their arguments.

2. The Permit impermissibly purports to limit the ability of EPA, state regulators, and citizens to bring an enforcement action for violation of PM limits where such violations are demonstrated through PM CEMS data.

3. The Permit fails to specify how — and ensure that — Morgantown will meet the requirements of the Mercury Air Toxics Rule.

4. MDE must ensure that the Plant's STAR processing facility does not trigger PSD permitting thresholds.

5. MDE should consider additional measures to reduce impacts from the plume from the Plant's main stack.

B. DISCUSSION

1. The Proposed Permit Fails to Include Numerical Emission Limits Sufficient To Ensure that Morgantown Will Not Cause Exceedances of the Health-Protective One-Hour SO_2 NAAQS; Consequently the Proposed Permit Fails to Assure That the Facility Will Not Cause Conditions of "Air Pollution" in Maryland.

As detailed in Environmental Groups' 2013 comments, Title V permits must include "[e]missions limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance." *See* 40 C.F.R. §§ 70.6(a)(1), 70.2 ("applicable requirements"); COMAR 26.11.03.06.A(1); 26.11.02.01. Maryland regulations provide that "[a]n installation or premises may not be operated or maintained in such a manner that . . . air pollution is created." COMAR 26.11.06.08. "Air pollution" is defined by regulation as "the presence in the outdoor atmosphere of substances in quantities, having characteristics, and being of a duration which, from any single source or in combination with other sources, are, or may be predicted with reasonable certainty to be, injurious to human . . . life . . . ." COMAR 26.11.01.01.B(2) (emphasis added). Because Maryland's prohibition on "air pollution" is an applicable requirement, *see* COMAR 26.11.02.01.B(6)(a), a proposed permit must include emission limits sufficient to ensure the facility will not cause "air pollution."

The Maryland SIP's prohibition on causing "air pollution" requires that permits for sources be sufficient to ensure that their impacts remain below the NAAQS. The NAAQS are scientifically-informed standards specifying substances in quantities and durations that are expressly designed to be protective of human health. *See* 42 U.S.C. §7409(b)(1). Consequently, for pollutants for which EPA has established NAAQS, such as SO_2, an exceedance of these NAAQS is dispositive of an unsafe level of air pollution—one that is "injurious to human life"—and therefore dispositive of what constitutes "air pollution." To quantitatively protect against "air pollution," an applicable requirement, as required by 40 C.F.R. § 70.6(a)(1) and COMAR 26.11.03.06.A(1), the Morgantown Title V permit must therefore contain numerical emission limits sufficient to ensure that the facility will not cause exceedances of the health-protective one-hour SO_2 NAAQS.

Other states, such as Massachusetts, have properly recognized a violation of a NAAQS to be a per se condition of "air pollution." Based on an analogous prohibition on "air pollution" in its SIP, the Massachusetts Department of Environmental Protection ("MassDEP") recently issued a draft Title V operating permit for the Mt. Tom Generating Station, located in Holyoke, Massachusetts, containing an explicit permit condition that states: "[i]n accordance with 310 CMR 7.02(7) the Permittee shall demonstrate that the facility does not cause or contribute to a violation of U.S. EPA's one hour SO_2 NAAQS (40 C.F.R. 50.71)." Mt. Tom Draft Permit at 20, attached hereto as Exhibit 2. Like Maryland's COMAR 26.11.06.08 and COMAR 26.11.06.09, Massachusetts's 310 CMR 7.02(7) establishes requirements for instances where "the Department determines that any facility or product manufactured therein has the likelihood of causing or contributing to a condition of air pollution." (emphasis added). Massachusetts has given effect to this prohibition, consistent with the prohibition's plain language, by equating an exceedance of a NAAQS with a condition of "air pollution." Consequently, MassDEP has required the Mt. Tom facility to provide atmospheric dispersion modeling of its SO_2 emissions for analysis and comparison with the NAAQS. *See* Letter from David Howland, Regional Engineer Massachusetts Dept. Envtl. Prot. To Mr. Howard Person, Plant Manager, Mt. Tom Generating Station (Feb. 21, 2013). Specifically, the plant must demonstrate via modeling that it will not violate the 1-hour SO2 NAAQS. *Id.* Further, in the case of other pollutants, MassDEP has "rel[ied] upon the NAAQS to determine whether [a] plant will cause or contribute to a condition of air pollution." *See I/M/O Palmer Renewable Energy, LLC*, OADR Dkt. No. 2011-021 & 022, 2012 WL 5377276, at *19 (Mass. Dep't Env. Prot. July 9, 2012) (hereinafter "Palmer Renewable Energy") (For fine particulate matter, "MassDEP's approach is to examine whether the facility's modeled emissions combined with background ambient levels will exceed the NAAQS.").

In the case of the Morgantown plant, air dispersion modeling conducted by an expert modeler and submitted to the Department in August 2013 demonstrates that the emission limitations in the current permit—limits which have been carried over to the Proposed Permit—are insufficiently stringent to ensure that the plant's impacts remain below the one-hour SO_2 NAAQS and therefore do not cause or contribute to a condition of "air pollution." Specifically, Sierra Club commissioned expert modeling of Morgantown's maximum allowable SO_2 emission rate to determine whether authorized SO_2 emissions from the Plant's coal-fired boilers may cause or contribute to violations of the NAAQS.[2] The dispersion analysis was conducted in adherence with all available EPA modeling guidance for evaluating source impacts on attainment of the one-hour SO_2 NAAQS via aerial dispersion modeling, including the AERMOD Implementation Guide; USEPA's Applicability of Appendix W Modeling Guidance for the 1-hour SO_2 National Ambient Air Quality Standard, August 23, 2010; modeling guidance promulgated by USEPA in Appendix W to 40 C.F.R. Part 51; and USEPA's March 2011 Modeling Guidance for SO_2 NAAQS Designations, *available at* http://www.epa.gov/ttn/scram/SO_2%20Designations%20Guidance%202011.pdf.

The modeling results indicate that, at the emission levels allowed by the Proposed Permit, Morgantown would cause violations of the applicable one-hour SO_2 NAAQS, and therefore would cause a condition of "air pollution." *See* COMAR 26.11.06.08, 26.11.06.09. The

[2] Sierra Club provided a copy of the Morgantown modeling to MDE on August 5, 2013. The maximum authorized emission rate in both Morgantown's existing and Proposed Permit is 3.5 lbs/MMBtu. Proposed Permit at 38.

Proposed Permit limits emissions of SO_2 from the Plant's coal-fired boiler to 3.5 lb/MMBtu, on a 1-hour-hour average. Proposed Permit at 38. Modeling using this allowable emission rate predicts peak impacts of 2,234.1 µg/m^3. Morgantown Compliance Modeling at 3. This is eleven times greater than the NAAQS of 196.2 µg/m^3, and represents a level that would unquestionable be injurious to human life.

Modeled One-Hour SO_2 Impacts at Morgantown

Emissions	Highest Projected Concen. (ug/m^3)	Background Concen. (ug/m^3)	Total Concen. (ug/m^3)	NAAQS (ug/m^3)	NAAQS Exceeded?
Allowable[3]	2,234.1	39.2	2,273.3	196.2	YES
Maximum[4]	470.1	39.2	509.3	196.2	YES

The proposed limits are plainly insufficient to assure compliance with applicable requirements. Because the SO_2 emission limits in the Proposed Permit are insufficient to ensure the Morgantown Plant's impacts will remain below the NAAQS and therefore not be injurious to human life, in violation of COMAR 26.11.06.08 and 26.11.06.09, the SO_2 limits must be revised in the final permit. Title V permits must accomplish the critical task of identifying all applicable requirements for a facility and translating these applicable requirements into clearly defined compliance obligations. Where a permit fails to define compliance obligations in a manner that enables a determination of whether applicable requirements are being met, the permit is inadequate.

Based on the modeling analysis, a reduction in permitted SO_2 emissions of at least 93.0% is required to ensure that ambient concentration levels of SO_2 will not cause a condition of air pollution. *See* Morgantown Compliance Modeling at 4. In other words, to ensure that the Title V Permit will assure compliance with the applicable requirements found at COMAR 26.11.06.08 and 26.11.06.09, the Plant's Title V Permit must contain a facility-wide SO_2 emissions limit that is at least as restrictive as 2615.5 lbs/hr (or 0.25 lbs/MMBtu), based on a one-hour averaging time. *See id.*

There is no impediment to MDE implementing such enforceable limitations in the context of this Title V permit renewal. EPA has stated that "a state agency has the authority . . . to do any analysis it deems necessary to ensure compliance with the [Clean Air] Act and the Rules." *I/M/O Hercules, Inc.*, Petition IV-2003-01, 2004 (Nov. 10, 2004) at 8. Moreover, the state agency "has the authority to include and/or revise emission limitations, i.e., numerical limits and/or equipment or operation or maintenance requirements, in the applicable air quality permit." *Id.* Indeed,, other states—such as Massachusetts—have incorporated enforceable short-term modeling-informed emissions limits in the context of Title V permit renewals. Where there is evidence to show that the NAAQS will be violated, MDE must adjust the emissions limits in the Plant's Title V permit to levels that will assure compliance.

Although Environmental Groups commented extensively on this issue in September 2013, the permit record provides no indication that MDE assessed the Proposed Permit's SO_2 emission limits specifically to ensure that Morgantown would comply with COMAR 26.11.06.08

[3] Allowable emissions are based on the emissions limits in the Proposed Permit.
[4] Maximum emissions are the reported hourly rates for 2012 in USEPA, Clean Air Markets - Data and Maps.

and 26.11.06.09. The failure to address the adequacy of the existing emission limits is surprising and concerning in light of the steps taken by MDE since September 2013 to model SO_2 emissions from the State's coal plants and to identify the SO_2 emission limits requisite for each of the coal plants in the State to meet in order to ensure that their impacts remain below the 2010 SO_2 NAAQS. MDE's own air dispersion modeling, presented in a stakeholder meeting on February 12, 2014, indicates that when emitting from the scrubber stake, total emissions from the two units must remain below 3,126.2 lb/hr in order to remain below the NAAQS.[5] As calculated by the Department, the permit's current SO_2 limit is approximately 45,256 lb/hr,[6] which is nearly 15 times higher than the level identified by the Department as necessary to protect the NAAQS. Where there is refined air dispersion modeling showing that the Proposed Permit allows for violation of COMAR 26.11.06.08 and 26.11.06.09 by permitting SO_2 emissions at levels which violate the applicable one-hour SO_2 NAAQS and are injurious to human life, the Proposed Permit is in violation of the CAA and its implementing regulations and cannot be finalized as drafted. The Proposed Permit must be amended to include SO_2 emission limitations and standards specifying emission rates with averaging times sufficient to protect against "air pollution" by assuring continuous compliance with the 1-hour SO_2 NAAQS. *See* COMAR 26.11.04.02; 26.11.06.08 and 26.11.06.09; 40 C.F.R. §§ 70.6(a)(1), 70.2.

2. MDE Must Eliminate Provisions Which Purport to Limit the Consequences for Violating PM Standards.

The Proposed Permit requires Morgantown to demonstrate compliance with a PM limit of 0.100 lbs/MMBtu of heat input by both stack testing and operating PM CEMS,[7] and compliance through the latter method is determined based on a 24-hour rolling average. Permit at 38, 61. The draft Permit, however, purports to limit the ability of EPA, state regulators, and citizens to pursue enforcement actions on the basis of violations recorded by PM CEMS. Specifically, the Permit states that violations of the PM limit demonstrated through CEMs data will be subject to Maryland Environmental Article § 2-611. Permit at 61. That Section, which is not a part of the Maryland SIP, provides that a person will not be subject to enforcement action for violating a provision of the applicable rules or regulations if that person submits a compliance plan, and that plan is approved by the Secretary of MDE. This, in effect, amounts to a discretionary exemption from compliance with the 0.100 lbs/MMBtu PM limit otherwise required by the Permit — and apparently required by the SIP as well.[8]

---

[5] Michael Woodman/Tad Aburn, Maryland Dept. of the Environment, SO_2 Regulatory Support Modeling: What Emission Rates Are Needed to Comply With the 1-Hour SO2 Standard? (presented at Feb. 12, 2014 Stakeholder Meeting #3 in Baltimore, MD), available at http://www.mde.state.md.us/programs/regulations/air/Pages/StakeholderMeetings.aspx.

[6] Maryland Dept. of the Environment, A History of Power Plant Controls in Maryland: What Did We Learn? – Where Do We Go Next? Part 3 – SO2 Issues (presented at Oct. 21, 2013 Stakeholder Meeting #1 in Baltimore, MD), available at http://www.mde.state.md.us/programs/regulations/air/Pages/StakeholderMeetings.aspx.

[7] MDE should clarify the terminology used throughout the Permit to refer to continuous emission monitoring for PM. The Permit refers at various points to "PEM," "PM CEMS," and "Particulate Matter Emissions Monitoring." While these are presumably all referring to the same emission monitoring technique, this is not entirely certain from our review of the draft Permit.

[8] The Maryland SIP provides that for fuel-burning equipment constructed before Jan. 17, 1972, "[a] person may not cause or permit particulate matter caused by the combustion of solid fuel or residual oil in

The CAA provides that "[a]ll terms and conditions in a part 70 permit . . . are enforceable by the Administrator and citizens under the Act." 40 C.F.R. § 70.6(b)(2). The Maryland SIP is equally unequivocal, requiring that all Title V permits contain a provision "that all terms and conditions [in the Permit] . . . are enforceable by the EPA and citizens under the Clean Air Act, except for any terms and conditions that are identified as State-only enforceable." COMAR 26.11.03.06(11). By incorporating § 2-611 of the Maryland Environmental Article, however, the Permit impermissibly purports to limit the authority of the EPA, the state, and citizens to pursue an enforcement action against Morgantown for exceedances of the applicable PM limit where a violation of the limit is demonstrated through PM CEMs data, and the terms of a compliance plan are met. *See* Permit at 61 (providing that "violations of the particulate matter emission limitation recorded by PM CEMs data shall be subject to § 2-611 of the Environmental Article (Plan for Compliance)").

Relatedly, the reference to § 2-611 is also contrary to EPA's regulations because it appears to preclude the use, in an enforcement suit, of PM CEMs data as credible evidence of a violation of the Plant's PM limits. 40 C.F.R. § 51.212(c) provides: "For the purpose of . . . establishing whether or not a person has violated or is in violation of any standard in this part, [a SIP] must not preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed." Similarly, EPA has stated: "As mentioned in the [credible evidence] Revisions, even if a Title V permit specifies that certain monitoring, CAM or other monitoring, be performed and that this monitoring is the sole or exclusive means of establishing compliance or non-compliance, EPA views such provisions as null and void. Such an attempt to eliminate the possible use of credible evidence other than the monitoring specified in a Title V permit is antithetical to the credible evidence rule and to section 113(e)(1). If such a provision is nonetheless included in a permit, the permit should be vetoed to avoid any ambiguity." 62 Fed. Reg. 54900, 54908 (Oct. 22, 1997).

The reference to § 2-611 is also inconsistent with the Permit's provision stating that "[n]othing in this permit shall be interpreted to preclude the use of credible evidence to demonstrate noncompliance with any term of this permit." Permit at 26.

MDE must revise the permit to specify that compliance with the 0.100 lbs/mmBtu heat input PM limit is required at all times and that § 2-611does not apply — or at least that the

---

the fuel burning equipment . . . to be discharged into the atmosphere in excess of the amounts shown in Figure 1." COMAR 26.11.09.06A(1). Figure 1 specifies a maximum allowed particulate discharge of between 0.10 lbs/MMBtu and 0.6 lbs/MMBtu, depending on the unit's total heat input. COMAR 26.11.09.09. While the Proposed Permit references this requirement generally (Permit at 19), it does not specify whether the SIP PM limit is the same as the 0.100 lbs/mmBtu limit required by the 2008 Consent Decree and incorporated into the Permit. MDE should make clear in the final permit whether the SIP-derived PM limit is the same as the limit imposed by the 2008 Consent Decree, and if not, what the applicable SIP PM limit is. *See* COMAR 26.11.03.06B(1) (the permit should specify, and reference the origin of each applicable term or condition).

availability of relying on § 2-611is a state-only requirement inapplicable to federal-court citizen suits or suits by EPA.

3. The Permit's Provisions Related to the MATS Rule Are Not Practically Enforceable and Fail to Assure Compliance with the MATS Standards.

The Proposed Permit incorporates the provisions of EPA's Mercury Air Toxics Standards (MATS Rule). While the MATS Rule was recently remanded to the D.C. Circuit by the Supreme Court in *Michigan v. EPA*, No. 14-56 (Jun. 29, 2015), the Rule remains in effect.

As written, the MATS-related portions of the Proposed Permit fail to comply with the CAA because they are not practically enforceable. The CAA and Maryland SIP require that the terms of a Title V permit be "federally enforceable," which includes the requirement that permit terms be "practically enforceable." MDE, "Title V Program Fact Sheet," http://www.mde.state.md.us/programs/Permits/AirManagementPermits/TitleVProgramInformation/Pages/title5factsheet.aspx. MDE has explained that practical enforceability generally requires that the permit provision identify a technically accurate emission limitation and the portions of the source subject to such limitation, define the compliance period, and "describe the method to determine compliance, including appropriate monitoring, record keeping, and reporting." *Id. See also* COMAR 26.11.03.06B(1) (the permit should specify, and reference the origin of each applicable term or condition).

Similarly, 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). Here, the MATS-related portions of the Proposed Permit also fail to include sufficient monitoring and reporting requirements.

More specifically, the Proposed Permit's MATS provisions are not practically enforceable and failure to assure compliance for the following reasons:

First, Proposed Permit does not specifically state the Plant's compliance deadline for MATS. Under the MATS Rule, compliance was required as of April 16, 2015. *See* 40 C.F.R. §§ 63.9984(b), 63.10005(a). However, Clean Air Act § 112(i)(3) also allows EGUs to request a one-year extension of this deadline. Here, while the Proposed Permit seems to indicate that the Plant's compliance date is April 16, 2015 (see Permit at 72), the actual deadline for the Plant is not entirely clear from the permit materials. MDE must make this MATS compliance date for the Plant clearer.

Second, the Proposed Permit fails to specify which surrogates and monitoring methods will be used to demonstrate compliance with the MATS Rule. The Rule provides regulated EGUs with a suite of options for compliance with applicable emissions limits. While certain provisions in the Proposed Permit relating to the MATS Rule appear to specify that the Plant will use PM as a surrogate for non-mercury metals, PM CEMS to demonstrate compliance with this limit, SO_2 as a surrogate for acid-gas hazardous air pollutants and SO_2 CEMS to monitor compliance with the SO_2 limit, other provisions in the Permit fail to provide the requisite degree of clarity with respect to which surrogates and monitoring methods will apply to the Plant. For

example, pages 73-76 of the permit copy and paste general compliance provisions of the MATS Rule and appear to simply bold certain terms within these provisions that are applicable to the Plant. Copying and pasting large portions of the MATS Rule does not provide an adequate indicator of the limits applicable to the facility and how the facility intends to show compliance with these limits. The Proposed Permit must specify which of these surrogate emission limits and monitoring methods will be used in order to render the permit practically and federally enforceable and to ensure compliance with the relevant MATS limits.

Third, the Permit does not appear to indicate which MATS definition of "startup" the facility will employ, and as a result, it is unclear which set of work practice standards will apply to the facility during startup. *See* Permit at 76. MDE should revise these portions of the Permit to make explicit which of the startup options the Morgantown facility will employ to meet the requirements of the MATS Rule.

Fourth, the Permit fails to include a compliance monitoring plan, as required by the MATS Rule. 40 C.F.R. § 63.10000(d)(1) provides: "If 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)(2) provides that the site-specific monitoring plan "shall include the information specified in paragraphs (d)(5)(i) through (d)(5)(vii) of this section." In addition, § 63.10020(a) provides that EGUs are to 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)." The Proposed 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 the Plant, and the Proposed Permit should incorporate the plan.

4. MDE Must Ensure that Emissions from the STAR Fly Ash Processing Facility Do Not Trigger PSD Requirements.

In previous comments, Environmental Groups noted that stack test results from 2012 indicated that the STAR processing facility had likely exceeded Prevention of Significant Deterioration (PSD) significance levels for PM. 9/2013 Comments at 13 (referring to test results indicated in the 2013 Fact Sheet at 86). Specifically, Environmental Groups noted that the measured PM emission rate of 10.4 lbs/hour of PM (45.5 tons per year) was well above the PSD threshold, thereby violating the conditions of the construction permit for the STAR system, which was approved by the Maryland Public Service Commission in 2011. *Id.*

Since the previous version of the Proposed Permit was issued, Morgantown has conducted additional stack testing showing PM emissions that are lower than those recorded in 2012—as low as .28 lbs/hour (1.23 tons per year). Indeed, the 2014 stack test results indicate that PM emissions are 37 times lower than those recorded in 2012, despite having been conducted at the same feed rate (28 tph of fly ash). Neither the draft permit nor the fact sheet contains any information which would explain how stack testing using the same test methods and input

parameters resulted in such dramatically different results. Given the two wildly-different stack test results, MDE should explain the reasons for the lower test results and ensure that the STAR unit is not emitting PM at levels high enough to require a PSD permit.

5. MDE Should Consider Additional Measures to Reduce Impacts from the Plume at the Main Stack.

As explained in the Environmental Groups' December 2013 comments, impacts from the plume at the main stack remain a concern of nearby residents. Dr. Ranajit Sahu has prepared a report on behalf of Environmental Groups (attached to the December 2013 comments) identifying a number of options for reducing opacity and condensation impacts from the plume. MDE should consider requiring the Morgantown facility to implement these options to reduce the impacts of the facility on nearby communities.

Thank you for considering our comments.

Sincerely,

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

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION I SOURCE IDENTIFICATION

1. DESCRIPTION OF FACILITY

Morgantown Generating Station is engaged in the generation of electric energy. The primary SIC code for this plant is 4911. The major components of the facility consists of two (2) steam units primarily firing bituminous coal, four (4) auxiliary boilers firing on No. 2 fuel oil, six (6) combustion turbines firing on No, 2 fuel oil and their associated fuel storage and handling equipment. The gross winter capacity of the facility is 1506 MW.

Each of the two (2) boilers, manufactured by Combustion Engineering (CE) is rated at 640 MW. Each boiler is a tangentially coal fired supercritical unit with a superheater, single reheat and economizer. Units 1 and 2 are each equipped with Low NO_X burners (LNBs), Electrostatic Precipitators (ESP), Selective Catalytic Reduction (SCR), Over Fire Air (OFA) and Flue Gas Desulfurization (FGD) and exhausted through a 400 foot high stack. When the FGD systems are not in use, the flue gas is exhausted through a 700 foot high by-pass stack. The Units also have the capability of firing on No. 6 oil as an alternative primary fuel.

Three (3) auxiliary boilers are CE (Model #30 VP-12W) package boilers each rated at 164 MMBtu/hr and one (1) auxiliary boiler is a CE (Model 30VP2180R/48) rated at 213 MMBtu/hr. These auxiliary boilers fire No. 2 oil and are used for start-up steam and space heating.

Combustion Turbines CT-1 and CT-2 are General Electric (GE) Frame-5 each rated at 20 MWs and fired on No. 2 fuel oil. These CTs are both used for blackstart and peaking purposes. Combustion Turbines CT-3, 4, 5 and 6 are GE Frame -7 each rated at 65 MW and fired on No. 2 fuel oil. These CTs are used for peaking purposes.

A coal barge unloader system, a gypsum barge loading system, a coal blending system and a fly-ash beneficiation facility (STAR) are also located at the station.

2. FACILITY INVENTORY LIST

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
F1	3-0002	Unit 1: manufactured by CE-Alstom and rated at 640 MW. The boiler is a	March 1967

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
		tangentially coal-fired supercritical controlled circulation unit with a superheater, single reheat and economizer. The Unit is equipped with a LNBs, SCR, FGD and ESP. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No.6 oil as an alternative primary fuel	
F2	3-0003	Unit 2: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical controlled circulation unit with a superheater, single reheat and economizer. The Unit is equipped with a LNBs, SCR, FGD and ESP. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No. 6 oil as an alternative primary fuel	March 1967
F-CT 1	4-0068	General Electric Frame 5 combustion turbine rated at 20 MW and used for black capability and peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	March 1970
F-CT 2	4-0069	General Electric Frame 5 combustion turbine rated at 20 MW and used for black capability and peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1971
F-CT 3	4-0070	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is	June 1973

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
		vented to a single 20 ft high stack.	
F-CT 4	4-0071	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-CT 5	4-0073	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-CT 6	4-0074	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-Aux 1	4-0015	Auxiliary boiler No. 1 manufactured by CE-Alstom (Model No.30 VP-12W) is used for start-up steam and space heat heating. Auxiliary boiler No. 1 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	March 1967
F-Aux 2	4-0191	Auxiliary boiler No. 2 manufactured by CE-Alstom (Model No.30VP21808R/48) is used for start-up steam and space heat heating. Auxiliary boiler No. 2 is fired with No. 2 fuel oil and has a maximum rating of 219.3 mmBtu/hr.	June 2004
F-Aux 3	4-0017	Auxiliary boiler No.3 manufactured by CE-Alstom (Model No.30 VP-12W) is used for start-up steam and space heat heating. Auxiliary boiler No. 3 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	March 1967
F-Aux 4	4-0018	Auxiliary boiler No. 4 manufactured by CE-Alstom (Model No.30 VP-12W) is used for start-up steam and space heat heating. Auxiliary boiler No. 4 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	March 1967

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
Coal Barge Unloader	6-0138 (CPCN 9031)	The barge loading facility consists of a dock, barge unloader, a transfer and distribution system and a railcar loading facility. The barge unloader system is sized to unload up to 5.0 million tons of coal per year. The barge unloader's transfer and distribution system is integrated into Morgantown's existing coal handling system.	October 2007
Gypsum Barge Loading System	017-0014-6-0153 (CPCN 9148)	The Gypsum Barge Loading System is to convey and load gypsum produced by both the Chalk Point and Morgantown SO_2 FGD systems. The Gypsum Barge Loading System consists of the following subsystems: 1000-tph conveyor system; five transfer towers, one pier tripper conveyor, one telescoping barge load-out conveyor and rail unloading hopper and conveyor for chalk Point gypsum transfer.	October 2007
FGD System	(CPCN 9085)	A wet flue gas desulfurization (FGD) system is installed on both Units 1 and 2. The FGD system controls SO_2 and Hg. The FGD system uses limestone slurry with in-situ forced oxidation, producing gypsum by-product. The FGD system consists of the following sub-systems: limestone unloading and storage facilities; limestone slurry preparation and feed; SO_2 absorption tower; gypsum dewatering and loading facilities and two emergency diesel engines.	December 2010
Coal Blending System	017-0014-6-0154 (CPCN 9148)	The coal blending system is designed to blend various coals with different characteristics to match the specification of the Morgantown's boilers and air quality control equipment. The coal blending system consists of the following subsystems: new stack-out facilities in the south coal yard; underground reclaim facilities in existing south and north coal	March 2010

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
		yards; reclaim transfer point to integrate the reclaim from the north and south coal yards; refurbished and upgraded emergency reclaim; and enclosed transfer station with dust suppression system.	
STAR	6-0150 (CPCN 9229)	The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization scrubber system. Exhaust gases are directed through a 125 foot stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems.	December 2011

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION II GENERAL CONDITIONS

1. DEFINITIONS

[COMAR 26.11.01.01] and [COMAR 26.11.02.01]

The words or terms in this Part 70 permit shall have the meanings established under COMAR 26.11.01 and .02 unless otherwise stated in this permit.

2. ACRONYMS

ARMA	Air and Radiation Management Administration
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEM	Continuous Emissions Monitor
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMAR	Code of Maryland Regulations
EPA	United States Environmental Protection Agency
FR	Federal Register
gr	grains
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
MDE	Maryland Department of the Environment
MVAC	Motor Vehicle Air Conditioner
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
OTR	Ozone Transport Region
PM	Particulate Matter
PM10	Particulate Matter with Nominal Aerodynamic Diameter of 10 micrometers or less
ppm	parts per million
ppb	parts per billion
PSD	Prevention of Significant Deterioration
PTC	Permit to construct
PTO	Permit to operate (State)
SIC	Standard Industrial Classification

SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	tons per year
VE	Visible Emissions
VOC	Volatile Organic Compounds

3. EFFECTIVE DATE

The effective date of the conditions in this Part 70 permit is the date of permit issuance, unless otherwise stated in the permit.

4. PERMIT EXPIRATION

[COMAR 26.11.03.13B(2)]

Upon expiration of this permit, the terms of the permit will automatically continue to remain in effect until a new Part 70 permit is issued for this facility provided that the Permittee has submitted a timely and complete application and has paid applicable fees under COMAR 26.11.02.16.

Otherwise, upon expiration of this permit the right of the Permittee to operate this facility is terminated.

5. PERMIT RENEWAL

[COMAR 26.11.03.02B(3)] and [COMAR 26.11.03.02E]

The Permittee shall submit to the Department a completed application for renewal of this Part 70 permit at least 12 months before the expiration of the permit. Upon submitting a completed application, the Permittee may continue to operate this facility pending final action by the Department on the renewal.

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall submit such supplementary facts or corrected information no later than 10 days after becoming aware that this occurred. The Permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after the date a completed application was submitted, but prior to the release of a draft permit. This

information shall be submitted to the Department no later than 20 days after a new requirement has been adopted.

6. CONFIDENTIAL INFORMATION

[COMAR 26.11.02.02G]

In accordance with the provisions of the State Government Article, Sec. 10-611 et seq., Annotated Code of Maryland, all information submitted in an application shall be considered part of the public record and available for inspection and copying, unless the Permittee claims that the information is confidential when it is submitted to the Department. At the time of the request for inspection or copying, the Department will make a determination with regard to the confidentiality of the information. The Permittee, when requesting confidentiality, shall identify the information in a manner specified by the Department and, when requested by the Department, promptly provide specific reasons supporting the claim of confidentiality. Information submitted to the Department without a request that the information be deemed confidential may be made available to the public. Subject to approval of the Department, the Permittee may provide a summary of confidential information that is suitable for public review. The content of this Part 70 permit is not subject to confidential treatment.

7. PERMIT ACTIONS

[COMAR 26.11.03.06E(3)] and [COMAR 26.11.03.20(A)]

This Part 70 permit may be revoked or reopened and revised for cause. The filing of an application by the Permittee for a permit revision or renewal; or a notification of termination, planned changes or anticipated noncompliance by the facility, does not stay a term or condition of this permit.

The Department shall reopen and revise, or revoke the Permittee's Part 70 permit under the following circumstances:

a. Additional requirements of the Clean Air Act become applicable to this facility and the remaining permit term is 3 years or more;

b. The Department or the EPA determines that this Part 70 permit contains a material mistake, or is based on false or inaccurate information supplied by or on behalf of the Permittee;

c. The Department or the EPA determines that this Part 70 permit must be revised or revoked to assure compliance with applicable requirements of the Clean Air Act; or

d. Additional requirements become applicable to an affected source under the Federal Acid Rain Program.

8. PERMIT AVAILABILITY

[COMAR 26.11.02.13G]

The Permittee shall maintain this Part 70 permit in the vicinity of the facility for which it was issued, unless it is not practical to do so, and make this permit immediately available to officials of the Department upon request.

9. REOPENING THE PART 70 PERMIT FOR CAUSE BY THE EPA

[COMAR 26.11.03.20B]

The EPA may terminate, modify, or revoke and reissue a permit for cause as prescribed in 40 CFR §70.7(g)

10. TRANSFER OF PERMIT

[COMAR 26.11.02.02E]

The Permittee shall not transfer this Part 70 permit except as provided in COMAR 26.11.03.15.

11. REVISION OF PART 70 PERMITS – GENERAL CONDITIONS

[COMAR 26.11.03.14] and [COMAR 26.11.03.06A(8)]

a. The Permittee shall submit an application to the Department to revise this Part 70 permit when required under COMAR 26.11.03.15 -.17.

b. When applying for a revision to a Part 70 permit, the Permittee shall comply with the requirements of COMAR 26.11.03.02 and .03 except that the application for a revision need include only information listed that is related to the proposed change to the source and revision to the permit. This information shall be sufficient to evaluate the proposed change and to determine whether it will comply with all applicable requirements of the Clean Air Act.

c. The Permittee may not change any provision of a compliance plan or schedule in a Part 70 permit as an administrative permit amendment or as a minor permit modification unless the change has been approved by the Department in writing.

d. A permit revision is not required for a change that is provided for in this permit relating to approved economic incentives, marketable permits, emissions trading, and other similar programs.

12. SIGNIFICANT PART 70 OPERATING PERMIT MODIFICATIONS

[COMAR 26.11.03.17]

The Permittee may apply to the Department to make a significant modification to its Part 70 Permit as provided in COMAR 26.11.03.17 and in accordance with the following conditions:

a. A significant modification is a revision to the federally enforceable provisions in the permit that does not qualify as an administrative permit amendment under COMAR 26.11.03.15 or a minor permit modification as defined under COMAR 26.11.03.16.

b. This permit does not preclude the Permittee from making changes, consistent with the provisions of COMAR 26.11.03, that would make the permit or particular terms and conditions of the permit irrelevant, such as by shutting down or reducing the level of operation of a source or of an emissions unit within the source. Air pollution control equipment shall not be shut down or its level of operation reduced if doing so would violate any term of this permit.

c. Significant permit modifications are subject to all requirements of COMAR 26.11.03 as they apply to permit issuance and renewal,

including the requirements for applications, public participation, and review by affected states and EPA, except:

(1) An application need include only information pertaining to the proposed change to the source and modification of this permit, including a description of the change and modification, and any new applicable requirements of the Clean Air Act that will apply if the change occurs;

(2) Public participation, and review by affected states and EPA, is limited to only the application and those federally enforceable terms and conditions of the Part 70 permit that are affected by the significant permit modification.

d. As provided in COMAR 26.11.03.15B(5), an administrative permit amendment may be used to make a change that would otherwise require a significant permit modification if procedures for enhanced preconstruction review of the change are followed that satisfy the requirements of 40 CFR 70.7(d)(1)(v).

e. Before making a change that qualifies as a significant permit modification, the Permittee shall obtain all permits-to-construct and approvals required by COMAR 26.11.02.

f. The Permittee shall not make a significant permit modification that results in a violation of any applicable requirement of the Clean Air Act.

g. The permit shield in COMAR 26.11.03.23 applies to a final significant permit modification that has been issued by the Department, to the extent applicable under COMAR 26.11.03.23.

13. MINOR PERMIT MODIFICATIONS

[COMAR 26.11.03.16]

The Permittee may apply to the Department to make a minor modification to the federally enforceable provisions of this Part 70 permit as provided in COMAR 26.11.03.16 and in accordance with the following conditions:

a. A minor permit modification is a Part 70 permit revision that:

(1) Does not result in a violation of any applicable requirement of the Clean Air Act;

(2) Does not significantly revise existing federally enforceable monitoring, including test methods, reporting, record keeping, or compliance certification requirements except by:

(a) Adding new requirements,

(b) Eliminating the requirements if they are rendered meaningless because the emissions to which the requirements apply will no longer occur, or

(c) Changing from one approved test method for a pollutant and source category to another;

(3) Does not require or modify a:

(a) Case-by-case determination of a federally enforceable emissions standard,

(b) Source specific determination for temporary sources of ambient impacts, or

(c) Visibility or increment analysis;

(4) Does not seek to establish or modify a federally enforceable permit term or condition for which there is no corresponding underlying applicable requirement of the Clean Air Act, but that the Permittee has assumed to avoid an applicable requirement to which the source would otherwise be subject, including:

(a) A federally enforceable emissions standard applied to the source pursuant to COMAR 26.11.02.03 to avoid classification as a Title I modification; and

(b) An alternative emissions standard applied to an emissions unit pursuant to regulations promulgated under Section 112(i)(5) of the Clean Air Act

(5) Is not a Title I modification; and

(6) Is not required under COMAR 26.11.03.17 to be processed as a significant modification to this Part 70 permit.

b. Application for a Minor Permit Modification

The Permittee shall submit to the Department an application for a minor permit modification that satisfies the requirements of COMAR 26.11.03.03 which includes the following:

(1) A description of the proposed change, the emissions resulting from the change, and any new applicable requirements that will apply if the change is made;

(2) The proposed minor permit modification;

(3) Certification by a responsible official, in accordance with COMAR 26.11.02.02F, that:

(a) The proposed change meets the criteria for a minor permit modification, and

(b) The Permittee has obtained or applied for all required permits-to-construct required by COMAR 26.11.03.16 with respect to the proposed change;

(4) Completed forms for the Department to use to notify the EPA and affected states, as required by COMAR 26.11.03.07-.12.

c. Permittee's Ability to Make Change

(1) For changes proposed as minor permit modifications to this permit that will require the applicant to obtain a permit to construct, the permit to construct must be issued prior to the new change.

(2) During the period of time after the Permittee applies for a minor modification but before the Department acts in accordance with COMAR 26.11.03.16F(2):

(a) The Permittee shall comply with applicable requirements of the Clean Air Act related to the change and the permit terms and conditions described in the application for the minor modification.

(b) The Permittee is not required to comply with the terms and conditions in the permit it seeks to modify. If the Permittee fails to comply with the terms and conditions in the application during this time, the terms and conditions of both this permit and the application for modification may be enforced against it.

d. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.16 is not within the scope of this regulation.

e. Minor permit modification procedures may be used for Part 70 permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, but only to the extent that the minor permit modification procedures are explicitly provided for in regulations approved by the EPA as part of the Maryland SIP or in other applicable requirements of the Clean Air Act.

14. ADMINISTRATIVE PART 70 OPERATING PERMIT AMENDMENTS

[COMAR 26.11.03.15]

The Permittee may apply to the department to make an administrative permit amendment as provided in COMAR 26.11.03.15 and in accordance with the following conditions:

a. An application for an administrative permit amendment shall:

(1) Be in writing;

(2) Include a statement certified by a responsible official that the proposed amendment meets the criteria in COMAR 26.11.03.15 for an administrative permit amendment, and

(3) Identify those provisions of this part 70 permit for which the amendment is requested, including the basis for the request.

b. An administrative permit amendment:

(1) Is a correction of a typographical error;

(2) Identifies a change in the name, address, or phone number of a person identified in this permit, or a similar administrative change involving the Permittee or other matters which are not directly related to the control of air pollution;

(3) requires more frequent monitoring or reporting by the Permittee;

(4) Allows for a change in ownership or operational control of a source for which the Department determines that no other revision to the permit is necessary and is documented as per COMAR 26.11.03.15B(4);

(5) Incorporates into this permit the requirements from preconstruction review permits or approvals issued by the Department in accordance with COMAR 26.11.03.15B(5), but only if it satisfies 40 CFR 70.7(d)(1)(v);

(6) Incorporates any other type of change, as approved by the EPA, which is similar to those in COMAR 26.11.03.15B(1)—(4);

(7) Notwithstanding COMAR 26.11.03.15B(1)—(6), all modifications to acid rain control provisions included in this Part 70 permit are governed by applicable requirements promulgated under Title IV of the Clean Air Act; or

(8) Incorporates any change to a term or condition specified as State-only enforceable, if the Permittee has obtained all necessary permits-to-construct and approvals that apply to the change.

c. The Permittee may make the change addressed in the application for an administrative amendment upon receipt by the Department of the application, if all permits-to-construct or approvals otherwise required by COMAR 26.11.02 prior to making the change have first been obtained from the Department.

d. The permit shield in COMAR 26.11.03.23 applies to administrative permit amendments made under Section B(5) of COMAR 26.11.03.15 , but only after the Department takes final action to revise the permit.

e. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.15 is not within the scope of this regulation.

15. OFF-PERMIT CHANGES TO THIS SOURCE

[COMAR 26.11.03.19]

The Permittee may make off-permit changes to this facility as provided in COMAR 26.11.03.19 and in accordance with the following conditions:

a. The Permittee may make a change to this permitted facility that is not addressed or prohibited by the federally enforceable conditions of this Part 70 permit without obtaining a Part 70 permit revision if:

(1) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(2) The change is not subject to any requirements under Title IV of the Clean Air Act;

(3) The change is not a Title I modification; and

(4) The change does not violate an applicable requirement of the Clean Air Act or a federally enforceable term or condition of the permit.

b. For a change that qualifies under COMAR 26.11.03.19, the Permittee shall provide contemporaneous written notice to the Department and the EPA, except for a change to an emissions unit or activity that is exempt from the Part 70 permit application, as provided in COMAR 26.11.03.04. This written notice shall describe the change, including the date it was made, any change in emissions, including the pollutants emitted, and any new applicable requirements of the Clean Air Act that apply as a result of the change.

c. Upon satisfying the requirements of COMAR 26.11.03.19, the Permittee may make the proposed change.

d. The Permittee shall keep a record describing:

(1) Changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement of the Clean Air Act , but not otherwise regulated under this permit; and

(2) The emissions resulting from those changes.

e. Changes that qualify under COMAR 26.11.03.19 are not subject to the requirements for Part 70 revisions.

f. The Permittee shall include each off-permit change under COMAR 26.11.03.19 in the application for renewal of the part 70 permit.

g. The permit shield in COMAR 26.11.03.23 does not apply to off-permit changes made under COMAR 26.11.03.19.

h. The Permittee is subject to enforcement action if it is determined that an off-permit change made under COMAR 26.11.03.19 is not within the scope of this regulation.

16. ON-PERMIT CHANGES TO SOURCES

[COMAR 26.11.03.18]

The Permittee may make on-permit changes that are allowed under Section 502(b)(10) of the Clean Air Act as provided in COMAR 26.11.03.18 and in accordance with the following conditions:

a. The Permittee may make a change to this facility without obtaining a revision to this Part 70 permit if:

(1) The change is not a Title I modification;

(2) The change does not result in emissions in excess of those expressly allowed under the federally enforceable provisions of the Part 70 permit for the permitted facility or for an emissions unit within the facility, whether expressed as a rate of emissions or in terms of total emissions;

(3) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(4) The change does not violate an applicable requirement of the Clean Air Act;

(5) The change does not violate a federally enforceable permit term or condition related to monitoring, including test methods, record keeping, reporting, or compliance certification requirements;

(6) The change does not violate a federally enforceable permit term or condition limiting hours of operation, work practices, fuel usage, raw material usage, or production levels if the term or condition has been established to limit emissions allowable under this permit;

(7) If applicable, the change does not modify a federally enforceable provision of a compliance plan or schedule in this Part 70 permit unless the Department has approved the change in writing; and

(8) This permit does not expressly prohibit the change under COMAR 26.11.03.18.

b. The Permittee shall notify the Department and the EPA in writing of a proposed on-permit change under COMAR 26.11.03.18 not later than 7 days before the change is made. The written information shall include the following information:

(1) A description of the proposed change;

(2) The date on which the change is proposed to be made;

(3) Any change in emissions resulting from the change, including the pollutants emitted;

(4) Any new applicable requirement of the Clean Air Act; and

(5) Any permit term or condition that would no longer apply.

c. The responsible official of this facility shall certify in accordance with COMAR 26.11.02.02F that the proposed change meets the criteria for the use of on-permit changes under COMAR 26.11.03.18.

d. The Permittee shall attach a copy of each notice required by condition b. above to this Part 70 permit.

e. On-permit changes that qualify under COMAR 26.11.03.18 are not subject to the requirements for part 70 permit revisions.

f. Upon satisfying the requirements under COMAR 26.11.03.18, the Permittee may make the proposed change.

g. The permit shield in COMAR 26.11.03.23 does not apply to on-permit changes under COMAR 26.11.03.18.

h. The Permittee is subject to enforcement action if it is determined that an on-permit change made under COMAR 26.11.03.18 is not within the scope of the regulation or violates any requirement of the State air pollution control law.

17. FEE PAYMENT

[COMAR 26.11.02.16A(2) & (5)(b)]

a. The fee for this Part 70 permit is as prescribed in Regulation .19 of COMAR 26.11.02.

b. The fee is due on and shall be paid on or before each 12-month anniversary date of the permit.

c. Failure to pay the annual permit fee constitutes cause for revocation of the permit by the Department.

18. REQUIREMENTS FOR PERMITS-TO-CONSTRUCT AND APPROVALS

[COMAR 26.11.02.09.]

The Permittee may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits-to-construct and approvals:

a. New Source Review source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

b. Prevention of Significant Deterioration source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

c. New Source Performance Standard source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

d. National Emission Standards for Hazardous Air Pollutants source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

e. A stationary source of lead that discharges one ton per year or more of lead or lead compounds measured as elemental lead, permit to construct required, except for generating stations constructed by electric companies;

f. All stationary sources of air pollution, including installations and air pollution control equipment, except as listed in COMAR 26.11.02.10, permit to construct required;

g. In the event of a conflict between the applicability of (a.— e.) above and an exemption listed in COMAR 26.11.02.10, the provision that requires a permit applies.

h. Approval of a PSD or NSR source by the Department does not relieve the Permittee obtaining an approval from also obtaining all permits-to-construct required b y (c.— g.) above.

19. CONSOLIDATION OF PROCEDURES FOR PUBLIC PARTICIPATION

[COMAR 26.11.02.11C] and [COMAR 26.11.03.01K]

The Permittee may request the Department to authorize special procedures for the Permittee to apply simultaneously, to the extent possible, for a permit to construct and a revision to this permit.

These procedures may provide for combined public notices, informational meetings, and public hearings for both permits but shall not adversely affect the rights of a person, including EPA and affected states, to obtain information about the application for a permit, to comment on an application, or to challenge a permit that is issued.

These procedures shall not alter any existing permit procedures or time frames.

20. PROPERTY RIGHTS

[COMAR 26.11.03.06E(4)]

This Part 70 permit does not convey any property rights of any sort, or any exclusive privileges.

21. SEVERABILITY

[COMAR 26.11.03.06A(5)]

If any portion of this Part 70 permit is challenged, or any term or condition deemed unenforceable, the remainder of the requirements of the permit continues to be valid.

22. INSPECTION AND ENTRY

[COMAR 26.11.03.06G(3)]

The Permittee shall allow employees and authorized representatives of the Department, the EPA, and local environmental health agencies, upon presentation of credentials or other documents as may be required by law, to:

a. Enter at a reasonable time without delay and without prior notification the Permittee's property where a Part 70 source is located, emissions-related activity is conducted, or records required by this permit are kept;

b. Have access to and make copies of records required by the permit;

c. Inspect all emissions units within the facility subject to the permit and all related monitoring systems, air pollution control equipment, and practices or operations regulated or required by the permit; and

d. Sample or monitor any substances or parameters at or related to the emissions units at the facility for the purpose of determining compliance with the permit.

23. DUTY TO PROVIDE INFORMATION

[COMAR 26.11.03.06E(5)]

The Permittee shall furnish to the Department, within a reasonable time specified by the Department, information requested in writing by the Department in order to determine whether the Permittee is in compliance with the federally enforceable conditions of this Part 70 permit, or whether cause exists for revising or revoking the permit. Upon request, the Permittee shall also furnish to the Department records required to be kept under the permit.

For information claimed by the Permittee to be confidential and therefore potentially not discloseable to the public, the Department may require the Permittee to provide a copy of the records directly to the EPA along with a claim of confidentiality.

The Permittee shall also furnish to the Department, within a reasonable time specified by the Department, information or records requested in writing by the Department in order to determine if the Permittee is in compliance with the State-only enforceable conditions of this permit.

24. COMPLIANCE REQUIREMENTS

[COMAR 26.11.03.06E(1)] and [COMAR 26.11.03.06A(11)] and [COMAR 26.11.02.05]

The Permittee shall comply with the conditions of this Part 70 permit. Noncompliance with the permit constitutes a violation of the Clean Air Act, and/or the Environment Article Title 2 of the Annotated Code of Maryland and may subject the Permittee to:

a. Enforcement action,

b. Permit revocation or revision,

c. Denial of the renewal of a Part 70 permit, or

d. Any combination of these actions.

The conditions in this Part 70 permit are enforceable by EPA and citizens under the Clean Air Act except for the State-only enforceable conditions.

Under Environment Article Section 2-609, Annotated Code of Maryland, the Department may seek immediate injunctive relief against a person who violates this permit in such a manner as to cause a threat to human health or the environment.

25. CREDIBLE EVIDENCE

Nothing in this permit shall be interpreted to preclude the use of credible evidence to demonstrate noncompliance with any term of this permit.

26. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

[COMAR 26.11.03.06E(2)]

The need to halt or reduce activity in order to comply with the conditions of this permit may not be used as a defense in an enforcement action.

27. CIRCUMVENTION

[COMAR 26.11.01.06]

The Permittee may not install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes emissions which would otherwise constitute a violation of any applicable air pollution control regulation.

28. PERMIT SHIELD

[COMAR 26.11.03.23]

A permit shield as described in COMAR 26.11.03.23 shall apply only to terms and conditions in this Part 70 permit that have been specifically

identified as covered by the permit shield. Neither this permit nor COMAR 26.11.03.23 alters the following:

a. The emergency order provisions in Section 303 of the Clean Air Act, including the authority of EPA under that section;

b. The liability of the Permittee for a violation of an applicable requirement of the Clean Air Act before or when this permit is issued or for a violation that continues after issuance;

c. The requirements of the Acid Rain Program, consistent with Section 408(a) of the Clean Air Act;

d. The ability of the Department or EPA to obtain information from a source pursuant to Maryland law and Section 114 of the Clean Air Act; or

e. The authority of the Department to enforce an applicable requirement of the State air pollution control law that is not an applicable requirement of the Clean Air Act.

29. ALTERNATE OPERATING SCENARIOS

[COMAR 26.11.03.06A(9)]

For all alternate operating scenarios approved by the Department and contained within this permit, the Permittee, while changing from one approved scenario to another, shall contemporaneously record in a log maintained at the facility each scenario under which the emissions unit is operating and the date and time the scenario started and ended.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION III PLANT WIDE CONDITIONS

1. PARTICULATE MATTER FROM CONSTRUCTION AND DEMOLITION

[COMAR 26.11.06.03D]

The Permittee shall not cause or permit any building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

2. OPEN BURNING

[COMAR 26.11.07]

Except as provided in COMAR 26.11.07.04, the Permittee shall not cause or permit an open fire from June 1 through August 31 of any calendar year. Prior to any open burning, the Permittee shall request and receive approval from the Department.

3. AIR POLLUTION EPISODE

[COMAR 26.11.05.04]

When requested by the Department, the Permittee shall prepare in writing standby emissions reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning, and Emergency of an air pollution episode.

4. REPORT OF EXCESS EMISSIONS AND DEVIATIONS

[COMAR 26.11.01.07] and [COMAR 26.11.03.06C(7)]

The Permittee shall comply with the following conditions for occurrences of excess emissions and deviations from requirements of this permit, including those in Section VI – State-only Enforceable Conditions:

a. Report any deviation from permit requirements that could endanger human health or the environment, by orally notifying the Department immediately upon discovery of the deviation;

b. Promptly report all occurrences of excess emissions that are expected to last for one hour or longer by orally notifying the Department of the onset and termination of the occurrence;

c. When requested by the Department the Permittee shall report all deviations from permit conditions, including those attributed to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to the Department. The written report shall include the cause, dates and times of the onset and termination of the deviation, and an account of all actions planned or taken to reduce, eliminate, and prevent recurrence of the deviation;

d. The Permittee shall submit to the Department semi-annual monitoring reports that confirm that all required monitoring was performed, and that provide accounts of all deviations from permit requirements that occurred during the reporting periods. Reporting periods shall be January 1 through June 30 and July 1 through December 31, and reports shall be submitted within 30 days of the end of each reporting period. Each account of deviation shall include a description of the deviation, the dates and times of onset and termination, identification of the person who observed or discovered the deviation, causes and corrective actions taken, and actions taken to prevent recurrence. If no deviations from permit conditions occurred during a reporting period, the Permittee shall submit a written report that so states.

e. When requested by the Department, the Permittee shall submit a written report to the Department within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.07D(2).

5. ACCIDENTAL RELEASE PROVISIONS

Should the Permittee become subject to 40 CFR 68 during the term of this permit, the Permittee shall submit risk management plans by the date specified in 40 CFR 68.150 and shall certify compliance with the

requirements of 40 CFR 68 as part of the annual compliance certification as required by 40 CFR 70.

The Permittee shall initiate a permit revision or reopening according to the procedures of 40 CFR 70.7 to incorporate appropriate permit conditions into the Permittee's Part 70 permit.

6. GENERAL TESTING REQUIREMENTS

[COMAR 26.11.01.04]

The Department may require the Permittee to conduct, or have conducted, testing to determine compliance with this Part 70 permit. The Department, at its option, may witness or conduct these tests. This testing shall be done at a reasonable time, and all information gathered during a testing operation shall be provided to the Department.

7. EMISSIONS TEST METHODS

[COMAR 26.11.01.04]

Compliance with the emissions standards and limitations in this Part 70 permit shall be determined by the test methods designated and described below or other test methods submitted to and approved by the Department.

Reference documents of the test methods approved by the Department include the following:

a. 40 CFR 60, appendix A

b. 40 CFR 51, appendix M

c. The Department's Technical Memorandum 91-01 "Test Methods and Equipment Specifications for Stationary Sources", (January 1991), as amended through Supplement 3, (October 1, 1997)

8. EMISSIONS CERTIFICATION REPORT

[COMAR 26.11.01.05-1] and [COMAR 26.11.02.19C] and [COMAR 26.11.02.19D]

The Permittee shall certify actual annual emissions of regulated pollutants from the facility on a calendar year basis.

a. The certification shall be on forms obtained from the Department and submitted to the Department not later than April 1 of the year following the year for which the certification is required;

b. The individual making the certification shall certify that the information is accurate to the individual's best knowledge. The individual shall be:

(1) Familiar with each source for which the certifications forms are submitted, and

(2) Responsible for the accuracy of the emissions information;

c. The Permittee shall maintain records necessary to support the emissions certification including the following information if applicable:

(1) The total amount of actual emissions of each regulated pollutant and the total of all regulated pollutants;

(2) An explanation of the methods used to quantify the emissions and the operating schedules and production data that were used to determine emissions, including significant assumptions made;

(3) Amounts, types and analyses of all fuels used;

(4) Emissions data from continuous emissions monitors that are required by this permit, including monitor calibration and malfunction information;

(5) Identification, description, and use records of all air pollution control equipment and compliance monitoring equipment including:

(a) Significant maintenance performed,
(b) Malfunctions and downtime, and
(c) Episodes of reduced efficiency of all equipment;

(6) Limitations on source operation or any work practice standards that significantly affect emissions; and

(7) Other relevant information as required by the Department.

9. COMPLIANCE CERTIFICATION REPORT

[COMAR 26.11.03.06G(6) and (7)]

The Permittee shall submit to the Department and EPA Region III a report certifying compliance with each term of this Part 70 permit including each applicable standard, emissions limitation, and work practice for the previous calendar year by April 1 of each year.

a. The compliance certification shall include:

(1) The identification of each term or condition of this permit which is the basis of the certification;

(2) The compliance status;

(3) Whether the compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of each source, currently and over the reporting period; and

(5) Any other information required to be reported to the Department that is necessary to determine the compliance status of the Permittee with this permit.

b. The Permittee shall submit the compliance certification reports to the Department and EPA simultaneously.

10. CERTIFICATION BY RESPONSIBLE OFFICIAL

[COMAR 26.11.02.02F]

All application forms, reports, and compliance certifications submitted pursuant to this permit shall be certified by a responsible official as to truth, accuracy, and completeness. The Permittee shall expeditiously notify the Department of an appointment of a new responsible official.

The certification shall be in the following form:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. SAMPLING AND EMISSIONS TESTING RECORD KEEPING

[COMAR 26.11.03.06C(5)]

The Permittee shall gather and retain the following information when sampling and testing for compliance demonstrations:

a. The location as specified in this permit, and the date and time that samples and measurements are taken;

b. All pertinent operating conditions existing at the time that samples and measurements are taken;

c. The date that each analysis of a sample or emissions test is performed and the name of the person taking the sample or performing the emissions test;

d. The identity of the Permittee, individual, or other entity that performed the analysis;

e. The analytical techniques and methods used; and

f. The results of each analysis.

12. GENERAL RECORDKEEPING

[COMAR 26.11.03.06C(6)]

The Permittee shall retain records of all monitoring data and information that support the compliance certification for a period of five (5) years from the date that the monitoring, sample measurement, application, report or emissions test was completed or submitted to the Department.

These records and support information shall include:

a. All calibration and maintenance records;

b. All original data collected from continuous monitoring instrumentation;

c. Records which support the annual emissions certification; and

d. Copies of all reports required by this permit.

13. GENERAL CONFORMITY

[COMAR 26.11.26.09]

The Permittee shall comply with the general conformity requirements of 40 CFR 93, Subpart B and COMAR 26.11.26.09.

14. ASBESTOS PROVISIONS

[40 CFR 61, Subpart M]

The Permittee shall comply with 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

15. OZONE DEPLETING REGULATIONS

[40 CFR 82, Subpart F]

The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for MVACs in subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the prohibitions and required practices pursuant to 40 CFR 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair or disposal of appliances shall comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

c. Persons performing maintenance, service, repairs or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.

d. Persons performing maintenance, service, repairs or disposal of appliances shall certify with the Administrator pursuant to 40 CFR 82.162.

e. Persons disposing of small appliances, MVACS, and MVAC-like appliances as defined in 40 CFR 82.152, shall comply with record keeping requirements pursuant to 40 CFR 82.166.

f. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.

g. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

16. ACID RAIN PERMIT

The Permittee shall comply with all requirements of the Acid Rain Permit. See attached.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION IV PLANT SPECIFIC CONDITIONS

This section provides tables that include the emissions standards, emissions limitations, and work practices applicable to each emissions unit located at this facility. The Permittee shall comply with all applicable emissions standards, emissions limitations and work practices included herein.

The tables also include testing, monitoring, record keeping and reporting requirements specific to each emissions unit. In addition to the requirements included here in **Section IV**, the Permittee is also subject to the general testing, monitoring, record keeping and reporting requirements included in **Section III – Plant Wide Conditions** of this permit.

Unless otherwise provided in the specific requirements for an emissions unit, the Permittee shall maintain at the facility for at least five (5) years, and shall make available to the Department upon request, all records that the Permittee is required under this section to establish. **[Reference: COMAR 26.11.03.06C(5)(g)]**

Table IV – 1	
1.0	**Emissions Unit Number(s): F1 and F2: Boilers** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical controlled circulation unit with a superheater, single reheat and economizer. The Unit is equipped with a LNBs, SCR, ESP and FGD. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No.6 oil as an alternative primary fuel. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical controlled circulation unit with a superheater, single reheat and economizer. The Unit is equipped with a LNBs, SCR, ESP and FGD. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No.6 oil as an alternative primary fuel. (**3-0003**)
1.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05A (1) & (3)** – Fuel Burning Equipment "Areas I, II, V, and VI. In Areas I, II, V, and VI, a person may not cause or

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is greater than 20 percent opacity. 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 Permittee shall comply with the terms of the March 2008 Consent Decree. Compliance with the March 2008 Consent Decree will be considered compliance for **COMAR 26.11.09.05A(1)**. See the details of the March 2008 Consent Decree in Table IV-1b *See State-only Section for additional Requirements for the By-Pass Stack.* B. Control of Particulate Matter Emissions **COMAR 26.11.09.06A(1)** – Fuel-Burning Equipment Constructed Before January 17, 1972. "A person may not cause or permit particulate matter caused by the combustion of solid fuel or residual fuel oil in the fuel burning equipment erected before January 17, 1972, to be discharged into the atmosphere in excess of the amounts shown in Figure 1." ***PM limit is 0.100 pounds per million Btu of heat input by stack test and 0.100 pounds per million Btu of heat input 24-hour rolling average by CEM. (Condition 32 and 40, March 2008 Consent Decree)*** **COMAR 26.11.09.06C**. Determination of Compliance (by stack test). "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." The Permittee shall comply with the terms of the March 2008 Consent Decree. See the details of the March 2008 Consent Decree in Table IV – 1b of the Permit under Emission Units F-1 and F-2. C. Control of Sulfur Oxides (1) **COMAR 26.11.09.07A(1)** - Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI: (a) The combustion of all solid fuels on a premises where the sum total

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1

maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour;
(b) Residual fuel oils, 2.0 percent;
(c) Distillate fuel oils, 0.3 percent;
(d) Process gas used as fuel, 0.3 percent."

See Additional Requirements in Table IV-1e: CPCN 9085.

(2) Emission Limitation for Power Plants requirements*:*
COMAR 26.11.27.03C. SO_2 Emission Limitations.
(1) Except as provided in §E of this regulation, annual SO_2 emissions from each affected electric generating unit may not exceed the number of tons in §C(2) of this regulation.
(2) Annual Tonnage Limitations.

Affected Unit	Annual SO_2 Tonnage Limitations Beginning
	January 1, 2013
Morgantown Unit 1	4678 tons
Morgantown Unit 2	4646 tons
System-wide	18,541 tons

COMAR 26.11.27.03E. System-Wide Compliance Determinations.
(1) Compliance with the emission limitations in §§B and C of this regulation may be achieved by demonstrating that the total number of tons emitted from all electric generating units in a system does not exceed the sum of the tonnage limitations for all electric generating units in that system.
(2) A system-wide compliance determination shall be based only upon emissions from units in Maryland that are subject to the emission limitations in §§B and C of this regulation.
(3) If a unit that is part of a system is transferred to a different person that does not own, operate, lease, or control an affected unit subject to this chapter, the transferred unit shall meet the limitations in §§B and C of this regulation applicable to that electric generating unit.

(3) Acid Rain Permit
The Permittee shall comply with the requirements of the Phase II Acid Rain Permit issued for this generating station. Note: A renewal Phase II Acid Rain Permit will be issued in conjunction with this Part 70 permit and is attached to the Part 70 permit as Appendix A.

(4) Clean Air Interstate Rule Permit (CAIR Permit)

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	The Permittee shall comply with the requirements of the CAIR Permit issued for this generating station. Note: This renewal CAIR Permit will be issued in conjunction with this Part 70 permit and is attached to the Part 70 permit as Appendix B. D. Control of Nitrogen Oxides (1) NO_X RACT Requirements **COMAR 26.11.09.08B(5)** - Operator Training. (a) For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. (b) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department." **COMAR 26.11.09.08C**. - Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 250 Million Btu Per Hour or Greater. "(1) A person who owns or operates fuel-burning equipment with a rated heat input capacity of 250 Million Btu per hour or greater shall equip each installation with combustion modifications or other technologies to meet the NO_X emission rates in §C(2) of this regulation. (2) The maximum NO_X emission rates as pounds of NO_X per Million Btu per hour are: (a) 0.45 for tangentially coal fired units located at an electric generating facility (excluding high heat release units); (b) 0.50 for wall coal fired units located at an electric generating facility (excluding high heat release units); (c) 0.30 for oil fired or gas/oil fired units located at an electric generating facility; (d) 0.70 for coal fired cyclone fuel burning equipment located at an electric generating facility from May 1 through September 30 of each year and 1.5 during the period October 1 through April 30 of each year; (**e) 0.70 for a tangentially coal fired high heat release unit located at an electric generating facility**; (f) 0.80 for a wall coal fired high heat release unit located at an electric generating facility; (g) 0.6 for coal fired cell burners at an electric generating facility; and (h) 0.70 for fuel burning equipment stacks at a non-electric generating facility during the period May 1 through September 30 of each year and 0.99 during the period October 1 through April 30 of each year. (3) A person who owns or operates fuel burning equipment with a rated heat input capacity of 250 Million Btu per hour or greater shall install, operate, calibrate, and maintain a certified NO_X CEM or an alternative NO_X monitoring method approved by the Department and the EPA on each

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1

installation.

COMAR 26.11.09.08B(2)(d) - Demonstration of Compliance. "Except as otherwise established by the Department and approved by the EPA, for a person who establishes compliance with the NO_X emissions standards in this regulation using a CEM, compliance shall be determined as 30-day rolling averages."

(2) Emission Limitation for Power Plants requirements:

COMAR 26.11.27.03B. NO_X Emission Limitations.

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

(2) Annual Tonnage Limitations.

Affected Unit	Annual NO_X Tonnage Limitations Beginning
	January 1, 2012
Morgantown Unit 1	2094 tons
Morgantown Unit 2	2079 tons
System-wide	8298 tons

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

"(6) Ozone Season Tonnage Limitations.

Affected Unit	Ozone Season NO_X Tonnage Limitations Beginning
	May 1, 2012
Morgantown Unit 1	868 tons
Morgantown Unit 2	864 tons
System-wide	3567 tons

(7) Electric System Reliability During Ozone Seasons.

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

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

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	satisfactory to the Department; (ii) Within 48 hours after completion of the action, the owner or operator of the affected unit or units provides the Department with the estimated NO_X emissions in excess of the emission limitation; and (iii) *See State-only enforceable section of the permit for additional requirement.* (b) The owner or operator of an electric generating unit or system, as applicable, shall send written notice to the Manager of the Air Quality Compliance Program not later than 5 business days following the day when the cumulative ozone season NO_X emissions of an electric generating unit or system, as applicable, are: (i) Equal to approximately 80 percent of the applicable ozone season emission limitation; and (ii) Equal to the applicable ozone season emission limitation. “ **COMAR 26.11.27.03E**. System-Wide Compliance Determinations. “(1) Compliance with the emission limitations in §§B and C of this regulation may be achieved by demonstrating that the total number of tons emitted from all electric generating units in a system does not exceed the sum of the tonnage limitations for all electric generating units in that system. (2) A system-wide compliance determination shall be based only upon emissions from units in Maryland that are subject to the emission limitations in §§B and C of this regulation. (3) If a unit that is part of a system is transferred to a different person that does not own, operate, lease, or control an affected unit subject to this chapter, the transferred unit shall meet the limitations in §§B and C of this regulation applicable to that electric generating unit.” (3) Potomac River Consent Decree The Permittee shall comply with the requirements of Potomac River Consent Decree. See **Table IV- 1a** Note: The Consent Decree establishes a NRG System-Wide Annual NO_X Tonnage Limitation and a System-Wide Ozone Season NO_X Emissions Limitation. Morgantown Units 1 and Unit 2 are included in the NRG System. See the details of the Potomac River Consent Decree under Section F of the Fact Sheet for Emission Units F-1 and F-2. “Beginning May 1, 2007, NRG shall not operate Morgantown Unit 1 unless it has installed and continuously operates, on a year-round basis, Selective Catalytic Reduction technology (“SCR”) (or equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than 0.100

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 53**] ***SCR placed into operation on Unit 1 prior to May 2007.*** "Beginning May 1, 2008, NRG shall not operate Morgantown Unit 2 unless it has installed and continuously operates, on a year-round basis, SCR (or an equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 54**] ***SCR placed into operation on Unit 2 prior to May 2008.*** (4) Acid Rain Permit The Permittee shall comply with the requirements of the renewal Phase II Acid Rain Permit issued for this generating station. Note: A renewal Phase II Acid Rain Permit will be issued in conjunction with this Part 70 permit and is attached to the Part 70 permit as Appendix A. (5) CAIR Permit The Permittee shall comply with the requirements of the CAIR Permit issued for this generating station. Note: This renewal CAIR Permit will be issued in conjunction with this Part 70 permit and is attached to the Part 70 permit as Appendix B.
1.2	**Testing Requirements:** A. Control of Visible Emissions: The Permittee shall perform quality assurance procedures on the continuous opacity monitoring system as established in COMAR 26.11.31. **[Reference: COMAR 26.11.03.06C**] B. Control of Particulate Matter: The Permittee in accordance with COMAR 26.11.01.04A(1) and July 22, 1992 Consent Order, shall conduct annual testing. Annual testing shall be performed using EPA Reference Method 5 of 40 CFR Part 60 Appendix A (Section C). The Permittee shall submit a protocol to the Department for approval at least 30 days prior to the scheduled date of the test. **[Reference: COMAR 26.11.03.06C]** C. Control of Sulfur Oxides: 1) The Permittee shall perform fuel sampling as follows: (1) Fuel sampling for solid fuel-fired units – one grab sample be taken as-bunkered or as-

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	fired during each test run with the results of a proximate analysis for each sample included with the test report. Reported parameters shall include volatile matter, carbon, ash and sulfur contents and heating value in Btu/lb. (2) Fuel sampling for residual oil-fired units – one grab sample shall be taken as-fired during each test run with the analytical results for each sample included with the test report. Reported parameters shall include viscosity, sulfur and ash content (dry basis) vanadium content (ppm) and heat content in Btu/gal. **[Reference: July 22, 1992 Consent Decree, Condition 1C]**. Please Note: Fuel analysis supersedes when CEM has significant downtime. 2) Emission Limitation for Power Plants requirements See Monitoring Requirements. 3) Acid Rain Permit See Monitoring Requirements. 4) CAIR Permit See Monitoring Requirements. D. Control of Nitrogen Oxides: 1) NO_X RACT Requirements See Monitoring Requirements. 2) Emission Limitation for Power Plants requirements: See Monitoring Requirements. 3) Potomac River Consent Decree See Monitoring Requirements. 4) Acid Rain Permit See Monitoring Requirements. 5) CAIR Permit See Monitoring Requirements.
1.3	**Monitoring Requirements:** A. Control of Visible Emissions See Control of Particulate Matter Requirements Table IV-1, 1.3B. *See State-only Section for additional Monitoring Requirements*.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	B. Control of Particulate Matter: The Permittee shall comply with the requirements of the March 2008 Consent Decree. See the requirements for a Compliance Assurance Monitoring Plan for the bypass stack and requirements for continuous Particulate Emissions Monitoring (PEM) in Table IV-1b: March 2008 Consent Decree and Table IV-1c & 1d – CAM Plan. **[Reference: COMAR 26.11.03.06C]** Please Note: CAM is in effect until compliance with MACT Subpart UUUUU C. Control of Sulfur Oxides For 1) through 4): The Permittee shall continuously monitor sulfur dioxide emissions using a CEM that meet the requirements of 40 CFR Part 75, Subpart B §75.10A(1) & (2). This continuous monitoring system shall be used to collect emissions information to demonstrate compliance with SO_2 standard, the Health Air Act limitations, Potomac River Consent Decree, the Acid Rain Program, and the Clean Air Interstate Rule. **[Reference: COMAR 26.11.03.06C; COMAR 26.11.27.05A, Potomac Consent Decree, July 22, 1992 Consent Decree, Acid Rain Permit, and CAIR Permit**]. The Permittee shall perform quality control/quality assurance procedures on the continuous emission monitoring system as established in 40 CFR Part 75, Appendix B. **[Reference: COMAR 26.11.01.11C]** D. Control of Nitrogen Oxides For 1) through 5): The Permittee shall operate, calibrate, and maintain a certified NO_X CEM or an alternative NO_X monitoring method approved by the Department and the EPA on each installation. [**Reference: COMAR 26.11.09.08C(3)]** The Permittee shall perform quality control/quality assurance procedures on the continuous emission monitoring system as established in 40 CFR Part 75, Appendix B. **[Reference: COMAR 26.11.01.11C]** The Permittee shall certify CEMs in accordance with 40 CFR Part 75, Appendix A. **[Reference: COMAR 26.11.09.08B(2)(b)]**
1.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions See Control of Particulate Matter Requirements Table IV-1, 1.3B.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	B. Control of Particulate Matter: The Permittee shall maintain records of all particulate matter emissions tests. **[Reference: COMAR 26.11.03.06C**] The Permittee shall maintain, in an electronic database, the hourly average emission values recorded by all PM CEMS for five (5) years. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 32.]** C. Control of Sulfur Oxides 1) The Permittee shall maintain all records necessary to comply with data reporting requirements of COMAR 26.11.01.10G (2). **[Reference COMAR 26.11.01.10G (2)]**. 2) Emission Limitation for Power Plants Requirements: The Permittee shall maintain records sufficient to demonstrate compliance with the requirements of the Healthy Air Act, COMAR 26.11.27. **[Reference: COMAR 26.11.01.05A].** 3) Acid Rain Permit & 4) CAIR Permit The Acid Rain Permit and CAIR Permit each contain program specific recordkeeping requirements. **[Reference: 40 CFR Part 75, Subpart F; and 40 CFR Part 96.274(a)].** D. Control of Nitrogen Oxides 1) NO_X RACT Requirements The Permittee shall maintain records necessary for the quarterly emission reports. **[Reference: COMAR 26.11.03.06C]** 2) Emission Limitation for Power Plants requirements: The Permittee shall maintain records sufficient to demonstrate compliance with the requirements of the Healthy Air Act, COMAR 26.11.27. **[Reference: COMAR 26.11.01.05A].** 3) Potomac River Consent Decree The Permittee shall comply with the recordkeeping requirements of the Potomac River Consent Decree. See paragraph 17 in Table IV-1a: Potomac River Consent Decree. **[Reference: COMAR 26.11.03.06C]** 4) Acid Rain Permit and 5) CAIR Permit The Acid Rain Permit and CAIR Permit each contain program specific recordkeeping requirements. **[Reference: 40 CFR Part 75, Subpart F and**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	40 CFR Part 96.174(a) and .374(a)].
1.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report: All CEM system downtime that lasts or is expected to last more than 24 hours shall be reported to the Department by telephone before 10 a.m. of the first regular business day following the breakdown. The system breakdown report required by Sec. G(1)(a) of this regulation shall include the reason, if known, for the breakdown and the estimated period of time that the CEM will be down. The owner or operator of the CEM shall notify the Department by telephone when an out-of-service CEM is back in operation and producing valid data. **[Reference: COMAR 26.11.01. 10G(2)]** The Permittee shall submit: Quarterly summary reports to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by the Department, and shall include the following: (i) The cause, time periods, and magnitude of all emissions which exceed the applicable emission standards; (ii) The source downtime including the time and date of the beginning and end of each downtime period and whether the source downtime was planned or unplanned; (iii) The time periods and cause of all CEM downtime including records of any repairs, adjustments, or maintenance that may affect the validity of emission data; (iv) Quarterly totals of excess emissions, installation downtime, and CEM downtime during the calendar quarter; (v) Quarterly quality assurance activities; and (vi) Daily calibration activities that include reference values, actual values, absolute or percent of span differences, and drift status; and (vii) Other information required by the Department that is determined to be necessary to evaluate the data, to ensure that compliance is achieved, or to determine the applicability of this regulation." **[Reference: COMAR 26.11.01.10G(2)]** The Permittee shall comply with the reporting requirements of the March 2008 Consent Decree. **See Table IV-1d: March 2008 Consent Decree** in paragraphs 1, 2, and 4. B. Control of Particulate Matter:

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	The Permittee shall report the results of the particulate emissions stack test to the Department within 45 days after completion of the testing. **[Reference: COMAR 26.11.03.06C]** The Permittee shall comply with the reporting requirements of the March 2008 Consent Decree. **See Table IV-1b: March Consent Decree** paragraphs 36. C. Control of Sulfur Oxides 1) The Permittee shall submit quarterly sulfur-in-fuel analysis reports to the Department within 30 calendar days of the end of each calendar quarter. (A) Reports for solid fuel-fired units shall contain the results of sampling and analysis, representative of a single unit's fuel combusted in a calendar day. At stations where multiple units fire the same solid fuel, a single grab sample may be used to represent the station. The fuel may be sampled daily on an "as-fired" or "as-bunkered" basis. A separate analysis must be performed for each sample using standard ASTM analysis procedures. Reported data shall include: (1) heat content (HHV) of fuel in Btu/lb. (as received); (2) Percentage of sulfur by weight (as-received); (3) Percentage of ash by weight (as-received); (4) Percentage of moisture (as–received); (5) Calculation of SO_2 emission rates in lbs/MMBtu (per AP-42); (6) Record of source time in operation for the term of the report (hours per quarter); and (7) Record of fuel sampling system time in operation for the term of the report (days per quarter). (B) Reports for residual oil-fired units may contain the results of samples taken on an "as-fired" or "as-received" basis for each day the subject unit operates. A separate analysis must be performed for each sample using standard ASTM analysis procedures. Reported data shall include: (1) Heat content (HHV) of the fuel in Btu/gal. (as-received); (2) Percentage of sulfur by weight (as-received); (3) Calculation of SO_2 emission rates in lbs/MMBtu (per AP-42); (6) Record of source time in operation for the term of the report (hours per quarter); and (7) Records of fuel sampling system time in operation for the term of the report (days per quarter). **[Reference: July 22, 1992 Consent Decree, Condition 2A&B]** The Permittee shall submit annual fuel usage reports to the Department for all fuel-burning equipment and combustion turbines owned and/or operated by the Permittee in the State of Maryland. The annual report shall contain the type and quantity of each fuel used, the average sulfur content, average heating value of each fuel, and the number of hours and the approximate number of days the equipment operated. The

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	annual report shall also contain the annual capacity factor for each of the electric generating unit. The annual fuel usage report shall be submitted no later than 60 calendar days following each calendar year. **[Reference: July 22, 1992 Consent Decree, Condition 6]** The Permittee shall a quarterly summary report to the Department not later than 30 days following each calendar quarter that contains the information listed in COMAR 26.11.01.10G(2)(d)(i)(vii). **[Reference: COMAR 26.11.01.11E(2)]**. 2) Emission Limitation for Power Plants Requirements: **COMAR 26.11.27.05 -** Monitoring and Reporting Requirements. **B**. Beginning with calendar year 2007 and each year thereafter, the owner or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year. **C**. Each report shall include: (1) Emissions performance results related to compliance with the emission requirements under this chapter; (2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit; (3) A current compliance plan; and (4) Any other information requested by the Department. 3) Acid Rain Permit & 4) CAIR Permit The Acid Rain Permit and CAIR Permit each contain program specific reporting requirements. **[Reference: 40 CFR Part 75, Subpart G; and 40 CFR Part 96.274].** D. Control of Nitrogen Oxides 1) NO_X RACT Requirements The Permittee shall submit quarterly emission reports of CEM data to the Department on or before the thirtieth day of the month following the end of each calendar quarter. The emissions report shall contain the information required by COMAR 26.11.01.10G (2) [**Reference: COMAR 26.11.09.08K(1) and COMAR 26.11.03.06C]** 2) Emission Limitation for Power Plants Requirements: **COMAR 26.11.27.05 -** Monitoring and Reporting Requirements. **B**. Beginning with calendar year 2007 and each year thereafter, the owner

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year. **C**. Each report shall include: (1) Emissions performance results related to compliance with the emission requirements under this chapter; (2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit; (3) A current compliance plan; and (4) Any other information requested by the Department. 3) Potomac River Consent Decree The Permittee shall comply with the reporting requirements of the Potomac River Consent Decree. See paragraphs 15 and 18 through 23 in Table IV-1a: Potomac River Consent Decree. **[Reference: COMAR 26.11.03.06C]** 4) Acid Rain Permit and 5) CAIR Permit The Acid Rain Permit and CAIR Permit each contain program specific reporting requirements. **[Reference: 40 CFR Part 75, Subpart G and 40 CFR Part 96.274].**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 1a – Potomac River Consent Decree	
1a.0	**<u>Emissions Unit Number(s): F1 and F2: Boilers Cont'd</u>** **<u>Potomac River Consent Decree</u>** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)
1a.1	**<u>Applicable Standards/Limits</u>:** D. <u>Control of Nitrogen Oxides</u> "Beginning May 1, 2007, the Permittee shall not operate Morgantown Unit 1 unless it has installed and continuously operates, on a year-round basis, Selective Catalytic Reduction technology ("SCR") (or equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree

30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 53**]
SCR placed into operation on Unit 1 prior to May 2007

"Beginning May 1, 2008, the Permittee shall not operate Morgantown Unit 2 unless it has installed and continuously operates, on a year-round basis, SCR (or an equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 54**]
SCR placed into operation on Unit 2 prior to May 2008.

System-wide Annual Tonnage Limitations for NO_X

1. Except as provided in Paragraph 185,188, or 189 as applicable, NRG shall comply with the following System-Wide Annual Tonnage Limitations for NO_X, which apply to all Units collectively within the NRG System, during each year specified in Table A below:
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 57.]

Note: The NRG system consists of Chalk Point Generating Station Unit 1 and Unit 2; Dickerson Generating Station Unit 1, Unit 2, and Unit 3; **Morgantown Generating Station Unit 1 and Unit 2;** and Potomac River Generating Station Unit 1, Unit 2, Unit 3, Unit 4, and Unit 5. *(Potomac River shut down in October 2012)*. Paragraph 185, 188, and 189 refer to revised requirements that are triggered if NRG severs the Morgantown Station, the Dickerson Station, or both the Morgantown and Dickerson Stations from the NRG System.

Table A

Applicable Year	System-Wide Annual Tonnage Limitations for NO_X
2004	36,500 tons
2005	33,840 tons
2006	33,090 tons
2007	28,920 tons
2008	22,000 tons
2009	19,650 tons
2010 and each year after	16,000 tons

2. Except as provided in Paragraph 185,188, or 189 as applicable, beginning May 1, 2004, for each Ozone Season specified, the sum of the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree

tons by all Units within the NRG System, shall not exceed the following System-Wide Ozone Season Tonnage Limitations for NO_X in Table B below:
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 58.]

Note: The NRG system consists of Chalk Point Generating Station Unit 1 and Unit 2; Dickerson Generating Station Unit 1, Unit 2, and Unit 3**; Morgantown Generating Station Unit 1 and Unit 2**; and Potomac River Generating Station Unit 1, Unit 2, Unit 3, Unit 4, and Unit 5. *(Potomac River shut down in October 2012)*. Paragraph 185, 188, and 189 refer to revised requirements that are triggered if NRG severs the Morgantown Station, the Dickerson Station, or both the Morgantown and Dickerson Stations from the NRG System.

Table B

Applicable Ozone Season	System-Wide Ozone Season Tonnage Limitations for NO_X
2004	14,700 tons
2005	13,340 tons
2006	12,590 tons
2007	10,190 tons
2008	6,150 tons
2009	6,150 tons
2010 and each ozone season thereafter	5,200 tons

3. Except as provided in Paragraph 185,188, or 189 as applicable, beginning May 1, 2008, and continuing for each and every Ozone Season thereafter, the NRG System, shall not exceed a System-Wide Ozone Season Emissions Rate of 0.150 lb/mm Btu NO_X.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 59.]

4. If NRG exceed the limitations specified in Section IV, Subsection C (System-Wide Annual Tonnage Limitations for NO_X) or D (System-Wide Ozone Season Emissions Limitations), NRG may not claim compliance with this Decree by using, tendering, or otherwise applying NO_X Allowances that were obtained prior to lodging of this Decree, or that are subsequently purchased or otherwise obtained, and stipulated penalties apply as set forth in Section XI (Stipulated Penalties). Except as provided in Paragraphs 61 and 66, NO_X Allowances allocated to, or purchased by, or on behalf of, the NRG System may not be used by NRG to meet its own

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	federal and/or State Clean Air Act regulatory requirements to the extent otherwise allowed by law. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 60.]** 5. Solely for the purpose of compliance with any present or future NO_X trading program set forth in the Maryland State Implementation Plan including, the Maryland NO_X Reduction and Trading Program, COMAR 26.11.29-26.11.30, beginning with: (a) the 2004 Ozone Season and during each Ozone Season thereafter, and (b) the year that an annual NO_X allowance trading program becomes effective in Maryland, and during each year thereafter, NRG must first use: (1) any and all allowances previously held by NRG; and (2) allowances allocated to individual plants within the NRG System. Only to the extent that such allowances are insufficient to establish compliance with the requirements of those SIPs, NRG may use NO_X Allowances purchased or otherwise obtained from sources outside the NRG System. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 61.]** 6. Except as provided in this Consent Decree, NRG shall not sell or trade any NO_X Allowances allocated to the NRG System that would otherwise be available for sale or trade as a result of NRG's compliance with any of the NO_X emission limitations specifies in this Consent Decree. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 62.]** 7. Provided that NRG is in compliance with all of the NO_X emission limitations specified in the Consent Decree, including both unit-specific and system-wide emissions rates and plant-wide and system-wide tonnage limitations, nothing in this Consent Decree shall preclude NRG from selling or transferring NO_X Allowances allocated to the NRG System that become available for sale or trade when, and only insofar as, both: (a) the total Ozone Season NO_X emissions from all Units within the NRG System are below System-Wide Ozone Season Tonnage Limitations for the applicable year, as specified in Paragraph 58; and (b) the annual NO_X emissions from all Units within the NRG System are below the System-Wide Annual Tonnage Limitations, as specified in Paragraph 57. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 63.]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	8. In no event shall the emission reductions required by this Decree be considered as credible contemporaneous emission decreases for the purpose of obtaining a netting credit under the Clean Air Act's Nonattainment NSR and PSD programs. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 71]** 9. In order to sell or transfer NO_X Allowances pursuant to Paragraph 63, NRG must also timely report the generation of such NO_X Allowances in accordance with Section IX (Periodic Reporting) of this Consent Decree. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 64.]** 10. For purpose of this Subsection, the "surrender of allowances" means permanently surrendering NO_X Allowances from the accounts administered by Plaintiffs for all Units in the NRG System, so that such allowances can never be used to meet any compliance requirement of any person under the Clean Air Act, the Maryland and Virginia SIPs, or this Consent Decree. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 65.]** 11. For each calendar year beginning with calendar year 2004, NRG shall surrender to EPA, or transfer to a non-profit third party selected by NRG for surrender: (1) the number of Ozone Season NO_X allowances equal to the amount by which the Ozone Season NO_X allowances allocated to all NRG System Units for a particular ozone season are greater than the System-Wide Ozone Season Tonnage Limitations for NO_X established in Paragraph 58 of the Consent Decree for the same year; and (2) the number of "annual" (non-ozone season) NO_X allowances equal to the amount by which the "annual" NO_X allowances allocated to all NRG System Units for a particular non-ozone season are greater than the difference between the System-Wide Annual Tonnage Limitations for NO_X established in Paragraph 57 and the System Wide Ozone Season Tonnage Limitations for NO_X established in Paragraph 58 for that same year. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 66]** 12. If any NO_X Allowances are transferred directly to a non-profit third party, NRG shall include a description of such transfer in the next report

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	submitted to Plaintiffs. Such report shall: (a) provide the identity of the non-profit third party recipient(s) of the NO_X Allowances and a listing of the serial numbers of the transferred NO_X Allowances; and (b) include a certification by the third-party recipient(s), stating that the recipient(s) will not sell, trade, or otherwise exchange any of the NO_X Allowances and will not use any of the Allowances to meet any obligation imposed by any environmental law. No later than the third periodic report due after the transfer of any NO_X Allowances, NRG shall include a statement that the third-party recipient(s) tendered the NO_X Allowances for permanent surrender to Plaintiffs in accordance with the provisions of Paragraph 68 within one (1) year after NRG transferred the NO_X Allowances to them. NRG shall not have complied with the NO_X Allowance surrender requirements of this Paragraph until all third-party recipient(s) shall have actually surrendered the transferred NO_X Allowances to Plaintiffs. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 67]** 13. For all NO_X Allowances surrendered to Plaintiffs, NRG or the non-profit third-party recipient(s) (as the case may be) shall first submit a NO_X Allowance transfer request form to EPA directing the transfer of such NO_X Allowances to the Plaintiffs' Enforcement Surrender Account or to any other Plaintiffs account that Plaintiffs may direct in writing. As part of submitting these transfer requests, NRG or the third-party recipient(s) shall irrevocably authorize the transfer of these NO_X Allowances and identify- by name of account and any applicable serial or other identification numbers or station names- the source and location of the NO_X Allowances being surrendered. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 68]** E. <u>Severance of the Morgantown and/or Dickerson Plants from the NRG System</u> 14. NRG shall comply with paragraphs 185,186,187,188,189,190, 191,192,193,194,195 of Section XIX. Severing the Morgantown Plant: Revised System-wide NO_X Emission Limitations, Section XX. Severing the Dickerson Plant: Revised System-wide NO_X Emission Limitations, XXI Severing the Morgantown and Dickerson Plants: Revised System-wide NO_X Emission Limitations, and Section XXII. Sales or Transfers of Ownership Interests. **[Reference: NRG Potomac River Consent Decree, Sections XIX, XX, XXI, and XXII]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	15. NRG shall comply with the reporting requires of paragraph 138 and 139 of Section XVII Severance of the Morgantown and/or Dickerson Plants from the NRG System. **[Reference: NRG Potomac River Consent Decree, Section XVII, paragraphs 138 and 139]** F. Monitoring, and Record Keeping and Reporting Requirements 16. In determining Emission Rates for NO_X, NRG shall use CEMs in accordance with those reference methods specified in 40 CFR Part 75. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 69]** 17. NRG shall retain, and instruct its contractors and agents to preserve, all non-identical copies of all records and document (including records and documents in electronic form) now in its or its contractors' or agents' possession or control, and that directly relate to NRG's performance of its obligations under this Consent Decree until December 31, 2015. This record retention requirement shall apply regardless of any corporate document retention policy to the contrary. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 131]** 18. NRG shall submit a report to Plaintiffs containing a summary of the data recorded by each NO_X CEMs in the NRG System, expressed in lb/mmBtu, on a 30-day rolling average basis, in electronic format, within 30 days after the end of each calendar quarter and within 30 days after the end of each month of the Ozone Season, and shall make all data recorded available to the Plaintiffs upon request. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 70]** *Completed (19, 20, & 21)*. **Reference: NRG Potomac River Consent Decree, Section IV, paragraphs 88, 89 & 90]** 22. In addition to the progress reports required pursuant to this Section, NRG shall provide a written report to Plaintiffs of any violation of the requirements of this Consent Decree, including exceedances of any Unit-specific 30-Day Rolling Average Emission Rates, Unit-specific 30-Day Rolling Average Removal Efficiencies, any Unit-specific 12-Month Rolling Average Removal Efficiencies, System-Wide Annual Tonnage Limitations, System-Wide Ozone Season Tonnage Limitations, Potomac River Annual or Ozone Season Tonnage Limitations, or System-Wide Ozone Season

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	Emission Rate, within ten (10) business days of when NRG knew or should have known of any such violation. In this report, NRG shall explain the cause or causes of the violation and all measures taken or to be taken by NRG to prevent such violations in the future. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 91]** 23. Each NRG report shall be signed by NRG's Director, Environmental Safety and Health, NRG Mid-Atlantic, LLC, or in his or her absence, the President of NRG Mid-Atlantic, LLC, or higher ranking official, and shall contain the following certification This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or the direction and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate, and complete. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 92]** 24. If any Allowances are surrendered to any non-profit third party, in accordance with this Consent Decree, the third party's certification shall be signed by a managing officer of the third party and shall contain the following language: I certify under penalty of law that [name of third party] will not sell, trade, or otherwise exchange any of the [NO_X, SO_2, or Mercury] Allowances and will not use any of the Allowances to meet any obligation imposed by an environmental law. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 93]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1b – March 2008 Opacity Consent Decree	
1b.0	**Emissions Unit Number(s): F1 and F2: Boilers Cont'd** **March 2008 Opacity Consent Decree** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)
1b.1	**Applicable Requirements:** Control of Visible Emissions *Completed:* **Consent Decree Section V. Evaluation of Opacity Exceedances, paragraphs 7, 8, 9, 10.** **Compliance Assurance Monitoring** *Completed:* **Consent Decree Section VII. Implementation of Interim and Final CAM Plans, paragraphs 11, 12, 13, 14, 15, 16, 17, 18.** **Particulate Matter Stack Testing** *Completed:* **Consent Decree Section VIII. Particulate Matter Stack Testing, paragraphs 26, 27, 28. *See letter dated October 6, 2011 – Petition to stop 170-day stack testing.*** *Completed:* **Consent Decree Section X. Installation of Particulate Matter CEMS, paragraph 31.** Each PM CEMS shall be comprised of a continuous particle mass monitor or equivalent device measuring particulate matter concentration for Morgantown Units 1 and 2 in lbs/mm Btu on a 24-hour rolling average basis. NRG shall maintain, in an electronic database, the hourly average emission values recorded by all PM CEMS for five (5) years. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 32.]** NRG shall use reasonable efforts to keep each PM CEMS operating and producing data whenever a Unit served by the PM CEMS is operating. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 33.]** *Completed:* **Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 34.**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1b – March 2008 Opacity Consent Decree	
	NRG shall provide the Department with written notice of the date on which initial operation of each PM CEMS is commenced. No later than 90 days following initial operation of a PM CEMS, NRG shall submit to the Department for review and approval a proposed Quality/Assurance/Quality Control ("QA/QC") protocol for that PM CEMS, including a maintenance schedule, which shall be followed in calibrating and operating the PM CEMS. The protocol shall be developed in accordance with EPA Procedures 2 of Appendix F or 40 CFR Part 60 ("Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems Used at Stationary Sources"). NRG shall operate each PM CEMS in accordance with the approved protocol. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 35]** NRG shall submit quarterly PM CEMS reports to the Department that comply with COMAR 26.11.01.10G (2)(d)(i) through (vi). All data shall be reported in 24-hour rolling averages. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 36]** Not Applicable. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 37]** *Completed.* **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 38]** Unless otherwise required by State or federal law or regulation, upon initial operation of an FGD pollution control device on a Unit subject to this Consent Decree, NRG may discontinue use of opacity CEMs to monitor the opacity emissions form the stack serving such Unit, provided that: (a) emissions form such Unit do not bypass the FGD serving that Unit and FGD technology serving that Unit is in operation; (b) NRG has fully implemented an alternative plan for monitoring opacity levels and particulate matter emissions from the stack serving such Unit that has been approved by the Department; and (c) NRG has demonstrated to the satisfaction of the Department and the United States Environmental Protection Agency, in accordance with 40 CFR §75.14 and applicable EPA regulations, policy and guidelines, that condensed water is present in the flue gas stream from such Unit and would impede the accuracy of opacity measurements. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 39]** Morgantown Units 1 and 2 shall be subject to a particulate matter emission limitation of **0.100 lbs/mmBtu heat input**. Compliance with the particulate

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1b – March 2008 Opacity Consent Decree	
	matter limitation shall be demonstrated by stack test performed in accordance with Paragraphs 26 and 27, and by PM CEMs data in accordance with Section X, except that violations of the particulate matter emission limitation recorded by PM CEMs data shall be subject to §2-611 of the Environmental Article (Plan for Compliance). Violations of the particulate matter standard demonstrated by stack testing are not subject to a Plan for Compliance pursuant to §2-611 of the Environment Article and shall be subject to all sanction and remedied available to the Department. **[Reference: Consent Decree Section XI. Particulate Matter Limitation Applicable to Morgantown Units 1 and 2, paragraph 40]** Not Applicable. **[Reference: Consent Decree Section XI. Particulate Matter Limitation Applicable to Morgantown Units 1 and 2, paragraph 41 & 42]** <u>Control of Sulfur Emissions</u> NRG shall ensure that each train of coal scheduled for delivery to the Morgantown Plant for combustion in Units 1 and 2 is sampled for sulfur content prior to delivery. NRG shall not burn coal that will cause SO_2 emissions in excess of 3.5 lbs/mm Btu heat input. [**Reference: Consent Decree Section III. Coal Sampling, paragraph 5]** <u>Truck Washing Facility</u> NRG shall commence operation of a Truck Washing Facility designed to reduce fugitive particulate matter emissions at the Morgantown Plant no later than September 30, 2008. Each Truck Washing Facility shall be installed to wash the wheels, undercarriage, and sides of all trucks used to haul fly ash and bottom ash to off-site storage facilities. Each Truck Washing Facility shall consist of a steel basin with ramps on either end, or an array of nozzles that spray high velocity jets of water on the bottom and sides of trucks as they are driven through the device. Water shall be recirculated through a filtration tank. Accumulated ash solids in each filtration tank shall be removed periodically and transported off site to an appropriate ash storage facility in accordance with all applicable local, State and Federal laws and regulations. The truck washing operation may be discontinued when ambient temperatures drop, or are expected to drop, below 36 degrees Fahrenheit, or otherwise when potential freezing would cause or contribute to unsafe conditions. [**Reference: Consent Decree Section XII. Truck Washing Facilities, paragraph 43]** <u>Mist Eliminators</u>

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1b – March 2008 Opacity Consent Decree	
	NRG shall install and maintain a mist eliminator in each FGD/SO_2 absorber for Morgantown Units 1 and 2, as specified in each of NRG's separate applications for a CPCN to install FGD technology at the Plants. [**Reference: Consent Decree Section XIII. Mist Eliminators, paragraph 44] By 12/31/2009.** Reporting Requirements Beginning with the quarter that commences on January 1, 2008, NRG shall submit to the Department quarterly reports describing the status of NRG's compliance with the terms and conditions of the Consent Decree. Each quarterly report shall be due no later than 30 days following the end of the quarter, unless such date falls on a weekend or holiday, in which case the report shall be due on the next business day. The first quarterly report shall be due on April 30, 2008. **[Reference: Consent Decree Section XIV. Reporting, paragraph 45]** *Completed*. **[Reference: Consent Decree Section XIV. Reporting, paragraph 46]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV-1c		
COMPLIANCE ASSURANCE MONITORING REQUIREMENTS – PART 64		
Electrostatic Precipitator (ESP) for UNIT 1 (Bypass Stack)		
Applicable Requirement	**PM:** Emission limit: 0.100 pounds particulate matter per million Btu of heat input (**Condition 40, March 2008 Consent Decree** **Opacity**: 20 percent maximum	
I. Indicator	Indicator #1	Indicator #2
	Opacity at Stack	ESP Secondary Power
Measurement Approach	The stack continuous opacity monitor (COM) produces 1-minute average readings, which are then used to produce 6-minute averages and block 1-hour averages	The ESP total secondary power is calculated from voltmeters reading secondary voltage and ammeters reading secondary current. Block 1-hour averages are produced from 1-minute averages.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

II. Indicator Range	The opacity indicator range is a block hourly average opacity of 19.0%. When the block hourly average opacity is over 19.0%, operators must look at the second CAM indicator, ESP total secondary power.	The total ESP secondary power indicator range is a block hourly average of 417 kW. Excursions below this indicator range trigger corrective actions and reporting requirements.
III. Performance Criteria		
1. Data Representativeness	The COM was installed on the stack per 40 CFR 60, Appendix B.	The voltmeters and ammeters are part of the ESP design and included in their instrumentation.
2. AQ/QC Practices and Criteria	QA/QC per 40 CFR 60, Appendix B	Voltmeters and ammeters and checked per standard PM schedule
3. Monitoring Frequency	Opacity is monitored continuously by the continuous opacity monitoring (COM) system.	Secondary power is monitored continuously by the plant information (Pi) system.
4. Record keeping	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.
5. (i) Reporting	Report the number, duration and cause of any excursion and the corrective action taken.	Report the number, duration and cause of any excursion and the corrective action taken.
(ii) Frequency	Quarterly	Quarterly

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV-1d		
COMPLIANCE ASSURANCE MONITORING REQUIREMENTS – PART 64		
Electrostatic Precipitator (ESP) for UNIT 2 (Bypass Stack)		
Applicable Requirement	**PM:** Emission limit: 0.100 pounds per million Btu of heat input (**March 2008 Consent Decree**). 0.140 pounds per million Btu of heat input. **Opacity**: 20 percent maximum	
I. Indicator	Indicator #1	Indicator #2
	Opacity at Stack	ESP Third Field Secondary Power

Measurement Approach	The stack continuous opacity monitor (COM) produces 1-minute average readings, which are then used to produce 6-minute averages and block 1-hour averages	The ESP third field secondary power is calculated from voltmeters reading secondary voltage and ammeters reading secondary current. Block 1-hour averages are produced from 1-minute averages.
II. Indicator Range	The opacity indicator range is a block hourly average opacity of 18%. When the block hourly average opacity is over 18%, operators must look at the second CAM plan indicator, ESP third field secondary power	The ESP third field secondary power indicator range is a block hourly average of 92 kW. Excursions below this indicator range trigger corrective actions and reporting requirements.
III. Performance Criteria		
1. Data Representativeness	The COM was installed on the stack per 40 CFR 60, Appendix B	The voltmeters and ammeters are part of the ESP design and included in their instrumentation.
2. AQ/QC Practices and Criteria	QA/QC per 40 CFR 60, Appendix B	Voltmeters and ammeters are checked per standard PM schedule.
3. Monitoring Frequency	Opacity is monitored continuously by the continuous opacity monitoring system (COM).	Secondary power is monitored continuously by the plant information (Pi) system.
4. Record keeping	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.
5. (i) Reporting	Report the number, duration and cause of any excursion and the corrective action taken.	Report the number, duration and cause of any excursion and the corrective action taken.
(ii) Frequency	Quarterly	Quarterly

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 1e – CPCN 9085: FGD System	
1e.0	**<u>Emissions Unit Number(s): FGD System for F1 and F2</u>** A wet flue gas desulfurization (FGD) system is installed on both Units 1 and 2. The FGD system controls acid gases (SO_2 & HCl) and Hg. The FGD system uses limestone slurry with in-situ forced oxidation, producing gypsum by-product. The FGD system consists of the following sub-systems: limestone unloading and storage facilities; limestone slurry

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – CPCN 9085: FGD System	
	preparation and feed; SO_2 absorption tower; gypsum dewatering and loading facilities and three (3) emergency diesel engines (two quench pump and one fire pump). **[CPCN: 9085]**
1e.1	**Applicable Standards/Limits:** **[Reference: CPCN 9085: II. Applicable Air Quality Regulations]** 10. The Morgantown facility is subject to all applicable, federally enforceable State air quality requirements including, but not limited to, the following regulations: a) **COMAR 26.11.01.10**–Requires NRG to install Continuous Opacity Monitoring (COM) systems to monitor opacity and Continuous Emissions Monitoring (CEM) systems (COMAR 26.11.01.11) to monitor SO_2, NO_X and either O_2 or CO_2 from each boiler, and to meet applicable CEM installation, certification, operating, monitoring, testing, and, malfunction requirements in 40 CFR Part 60, 40 CFR Part 75, and 40 CFR Part 51, Appendix 51, Appendix P, §3.3-3.8 or §3.9 as incorporated by reference. c) **COMAR 26.11.06.02C(1)-**Prohibits NRG from causing or permitting the discharge of emissions from any installation or building (i.e., confined, non-fuel-burning equipment sources) other than water in an uncombined form, which are greater than 20 percent opacity. d) **COMAR 26.11.06.03B(1)-**Prohibits NRG from discharging into the outdoor atmosphere from any confined source (i.e., the limestone, gypsum and other material storage silos) particulate matter in excess of 0.05 grains per dry standard cubic feet (gr/dscf)(115 mg/dscm). e) **COMAR 26.11.06.03C(1)-**Prohibits NRG from causing or permitting emissions from an unconfined (fugitive) source without taking reasonable precautions to prevent particulate matter from becoming airborne, f) **COMAR 26.11.06.03D**-Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For the unloading, loading and transfer of the materials included at the Morgantown APC Project (limestone, gypsum, and sorbent to control sulfuric acid mist emissions), these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer: i) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land. ii) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts. iii) Installation and use of hoods, fans, and dust collectors to enclose and

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – CPCN 9085: FGD System	
	vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations. iv) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution. Alternate means may be employed to achieve the same results as would covering the vehicles. v) The paving of roadways and their maintenance in clean condition. vi) The prompt removal from paved streets of earth or other material which has been transported there by trucks or earth moving equipment or erosion by water. g) **COMAR 26.11.06.12**-Prohibits NRG from constructing, modifying or operating or causing to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source as defined in COMAR 26.11.01.01C, which results in violation of provisions of 40 CFR Part 60. h) **COMAR 26.11.09.03**-When determining compliance with applicable particulate matter emission standards from boiler stacks (concentration requirement expressed as grains per standard cubic foot or milligrams per cubic meter of dry exhaust gas), NRG shall correct to 50 percent excess air. In addition, when determining compliance with a mass-based particulate matter emission limit expressed as pounds per million Btu (lb/MMBtu), NRG shall use the procedures for determining particulate matter emission rates in 40 CFR Part 60 Appendix A, Method 19. i) **COMAR 26.11.09.05A(1)-**Prohibits NRG from discharging emissions from fuel burning equipment, other than water in an uncombined form, which is greater than 20 percent opacity. Exceptions: limitations do not apply during times of load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment which are not greater than 40 percent opacity and do not occur for more than six consecutive minutes in any 60 minute period. j) **COMAR 26.11.09.05E(2) and E(3)**-Prohibits the discharge of emissions from the quench pump engines, when operating at idle, greater than 10 percent opacity, and when in operating mode, greater than 40 percent opacity. Exceptions: (i) limitations when operating at idle do not apply for a period of two consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system; (ii) limitations when operating at idle do not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods: engines that are idled continuously when not in service: 30 minutes, and all other engines: 15 minutes; (iii) limitations when in idle and operating modes do not apply while maintenance, repair, or testing is being performed by qualified mechanics. k) **COMAR 26.11.009.06A(1)**-Prohibits NRG from causing or permitting particulate matter emissions from Morgantown Units 1 and 2 in excess of

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – CPCN 9085: FGD System	
	0.14 lb/MMBtu. (Figure 1 of COMAR 26.11.09.06A). [*Compliance with the March 6, 2008 Consent Decree PM Emission limit 0.100 mmBtu/hr indicates compliance with COMAR 26.11.09.06A]*] l) **COMAR 26.11.09.07A(1)(a)**-Prohibits NRG from burning coal that would result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu actual heat input. m) **COMAR 26.11.09.07A(1)(c)-**Prohibits NRG from burning distillate fuel oil in the quench pumps with a sulfur content greater than 0.3 percent. n) **COMAR 26.11.27**-Requires NRG to comply with the applicable emissions limitations for NO_X, SO_2 and mercury as well as the monitoring and record keeping requirements contained in COMAR 26.11.27. **[Reference: CPCN 9085: III. New Source Performance Standard (NSPS) Requirements]** 12. The equipment at Morgantown identified in [CPCN 9085] Table 1a, Table 1b and Table 1c are subject to NSPS 40 CFR Part 60, Subpart OOO-Standards of Performance for Non-metallic Mineral Processing Plants (40 CFR §60.670) and the associated notification and testing requirements of 40 CFR §60.7, §60.8 and §60.11 whose requirements include, but are not limited to the following: a) NRG shall not cause to be discharged into the atmosphere gases from any transfer point along the belt conveyor systems, or any other stack, particulate matter in concentrations greater than 0.022 gr/dscf or opacity that is greater than seven percent. b) NRG shall not cause to be discharged into the atmosphere from any transfer point along the belt conveyor system or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity. If the transfer point is totally enclosed in a building or enclosure, then there are no fugitive emissions allowed from the building unless they are directed through a vent, which is limited by Condition 12(a). c) NRG shall not cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity d) NRG shall not cause to be discharged into the atmosphere from any baghouse that controls emissions from only an individual enclosed storage bin, stack emissions which exhibit greater than seven percent opacity. 13. Each of the three diesel engine-driven (two quench pumps and one fire pump) are subject to New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR §60.4205) and the associated fuel, monitoring, compliance, testing, notification,

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – CPCN 9085: FGD System	
	reporting and record keeping requirements (40 CFR §60.4200 et seq.), and related applicable provisions of 40 CFR §60.7 and §60.8. **[Reference: CPCN 9085: IV. Operational Restrictions and Limitations]** 14. NRG shall: a) Install, maintain and operate the new limestone, gypsum, sulfuric acid mist (SAM) control sorbent, and hydrated lime unloading, storage, transfer and distribution equipment and systems with associated particulate matter control methods listed in [CPCN 9085] Table 1a-c and Table 2 in accordance with original design criteria, vendor recommendations and best management practices, and in such a manner as to ensure full and continuous compliance with all applicable regulations. b) Update Morgantown's Best Management Practices (BMP) Plan, as required by the facility's Part 70 Operating Permit (Permit No. 24-017-0014), to include the new limestone, gypsum, SAM control sorbent, and hydrated lime transfer storage and distribution equipment. The Plan shall document what reasonable precautions will be used to prevent particulate matter from this equipment from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. c) At least 60 days prior to replacing, elimination or in any manner changing any of the particulate control systems listed in [CPCN 9085] Table 1a-c and Table 2, NRG shall submit a request to ARMA to amend the facility's BMP Plan. The request shall specify the proposed change(s) in emissions control systems; shall demonstrate that the change(s) will not result in any increases in any pollutants; and update [CPCN 9085] Table 1a-c and Table 2 of these conditions. NRG shall be authorizes to make the changes proposed in the written request unless ARMA denies the request within 30 days of the receipt of the request.
1e.2	**<u>Testing Requirements</u>:** **[Reference: CPCN 9085: V. Testing]** 17. In accordance with COMAR 26.11.01.04A, NRG may be required by ARMA to conduct additional stack tests to determine compliance with COMAR Title 26, Subtitle 11. This testing will be done at a reasonable time.
1e.3	**<u>Monitoring Requirements:</u>**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – CPCN 9085: FGD System	
	[Reference: CPCN 9085: VI. Monitoring] 18. NRG shall operate CEM systems for SO_2, NO_X and CO_2 or O_2, under 40 CFR part 75 and COM systems for Morgantown Unit 1 and 2.
1e.4	**<u>Record Keeping Requirements</u>:** **[Reference: CPCN 9085: VII. Recordkeeping and Reporting]** 24. All records and logs required by this CPCN shall be maintained at the facility for at least five years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of ARMA.
1e.5	**<u>Reporting Requirements</u>:** **[Reference: CPCN 9085: VII. Recordkeeping and Reporting]** 20. NRG shall submit to ARMA and US EPA written reports of the results of all performance test conducted to demonstrate compliance with the standards set forth in applicable NSPS within 60 days of completion of the tests. 21. Final results of the performance tests required by this CPCN must be submitted to ARMA within 60 days after completion of the test. Analytical data shall be submitted to ARMA directly from the emission testing company. 25. All air quality notification and reports required by this CPCN shall be submitted to: Administrator, Compliance Program Air and Radiation Management Administration 1800 Washington Boulevard Baltimore, Maryland 21230 26. All notification and reports required by 40 CFR 60 Subpart OOO and Subpart IIII, unless specified otherwise, shall be submitted to: Regional Administrator, US EPA Region III 1650 Arch Street Philadelphia, Pennsylvania 19103-2029

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
1f.0	**Emissions Unit Number(s): F1 and F2 Boilers Cont'd** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)
1f.1	**Applicable Standards/Limits:** Control of HAPs Emissions **40 CFR Part 63, Subpart UUUUU—National Emission Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units.** **§63.9980** - What is the purpose of this subpart? This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from coal- and oil-fired electric utility steam generating units (EGUs) as defined in §63.10042 of this subpart. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations. *Electric utility steam generating unit (EGU) means a fossil fuel-fired combustion unit of more than 25 megawatts electric (MWe) that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 MWe output to any utility power distribution system for sale is considered an electric utility steam generating unit.* **§63.9984** - When do I have to comply with this subpart? "(b) If you have an existing EGU, you must comply with this subpart no later than April 16, 2015." "(c) You must meet the notification requirements in §63.10030 according to the schedule in §63.10030 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart." "(f) You must demonstrate that compliance has been achieved, by conducting the required performance tests and other activities, no later than 180 days after the applicable date in paragraph (a), (b), (c), (d), or (e) of this section." **§63.9991** - What emission limitations, work practice standards, and operating limits must I meet? "(a) You must meet the requirements in paragraphs (a)(1) and (2) of this

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	section. You must meet these requirements at all times. (1) You must meet each emission limit and work practice standard in Table 1 through 3 to this subpart that applies to your EGU, for each EGU at your source, except as provided under §63.10009. (2) You must meet each operating limit in Table 4 to this subpart that applies to your EGU. (b) As provided in §63.6(g), the Administrator may approve use of an alternative to the work practice standards in this section. (c) You may use the alternate SO_2 limit in Tables 1 and 2 to this subpart only if your EGU: (1) Has a system using wet or dry flue gas desulfurization technology and SO_2 continuous emissions monitoring system (CEMS) installed on the unit; and (2) At all times, you operate the wet or dry flue gas desulfurization technology installed on the unit consistent with §63.10000(b)."
1f.2	**Testing Requirements:** Control of HAPs Emissions **Testing and Initial Compliance Requirements** **§63.10005** - What are my initial compliance requirements and by what date must I conduct them? (a) *General requirements.* For each of your affected EGUs, you must demonstrate initial compliance with each applicable emissions limit in Table 1 or 2 of this subpart through performance testing. Where two emissions limits are specified for a particular pollutant (e.g., a heat input-based limit in lb/MMBtu and an electrical output-based limit in lb/MWh), you may demonstrate compliance with either emission limit. For a particular compliance demonstration, you may be required to conduct one or more of the following activities in conjunction with performance testing: collection of hourly electrical load data (megawatts); establishment of operating limits according to §63.10011 and Tables 4 and 7 to this subpart; and CMS performance evaluations. In all cases, you must demonstrate initial compliance no later than the applicable date in paragraph (f) of this section for tune-up work practices for existing EGUs, in §63.9984 for other requirements for existing EGUs, and in paragraph (g) of this section for all requirements for new EGUs. (1) To demonstrate initial compliance with an applicable emissions limit in Table 1 or 2 to this subpart using stack testing, the initial performance test generally consists of three runs at specified process operating conditions using approved methods. If you are required to establish operating limits (see paragraph (d) of this section and Table 4 to this subpart), you must

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	collect all applicable parametric data during the performance test period. Also, if you choose to comply with an electrical output-based emission limit, you must collect hourly electrical load data during the test period. (2) To demonstrate initial compliance using either a CMS that measures HAP concentrations directly (*i.e.* , an Hg, HCl, or HF CEMS, or a sorbent trap monitoring system) or an SO_2 or PM CEMS, the initial performance test consists of 30 boiler operating days of data collected by the initial compliance demonstration date specified in §63.10005 with the certified monitoring system. (i) The 30-boiler operating day CMS performance test must demonstrate compliance with the applicable Hg, HCl, HF, PM, or SO_2 emissions limit in Table 1 or 2 to this subpart. (ii) If you choose to comply with an electrical output-based emission limit, you must collect hourly electrical load data during the performance test period. (b) *Performance testing requirements.* If you choose to use performance testing to demonstrate initial compliance with the applicable emissions limits in Tables 1 and 2 to this subpart for your EGUs, you must conduct the tests according to §63.10007 and Table 5 to this subpart. For the purposes of the initial compliance demonstration, you may use test data and results from a performance test conducted prior to the date on which compliance is required as specified in §63.9984, provided that the following conditions are fully met: (1) For a performance test based on stack test data, the test was conducted no more than 12 calendar months prior to the date on which compliance is required as specified in §63.9984; (2) For a performance test based on data from a certified CEMS or sorbent trap monitoring system, the test consists of all valid CMS data recorded in the 30 boiler operating days immediately preceding that date; (3) The performance test was conducted in accordance with all applicable requirements in §63.10007 and Table 5 to this subpart; (4) A record of all parameters needed to convert pollutant concentrations to units of the emission standard (e.g., stack flow rate, diluent gas concentrations, hourly electrical loads) is available for the entire performance test period; and (5) For each performance test based on stack test data, you certify, and keep documentation demonstrating, that the EGU configuration, control devices, and fuel(s) have remained consistent with conditions since the prior performance test was conducted. (c) *Operating limits.* In accordance with §63.10010 and Table 4 to this subpart, you may be required to establish operating limits using PM CPMS and using site-specific monitoring for certain liquid oil-fired units as part of

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	your initial compliance demonstration. (d) *CMS requirements.* If, for a particular emission or operating limit, you are required to (or elect to) demonstrate initial compliance using a continuous monitoring system, the CMS must pass a performance evaluation prior to the initial compliance demonstration. If a CMS has been previously certified under another state or federal program and is continuing to meet the on-going quality-assurance (QA) requirements of that program, then, provided that the certification and QA provisions of that program meet the applicable requirements of §§63.10010(b) through (h), an additional performance evaluation of the CMS is not required under this subpart. (1) For an affected coal-fired, solid oil-derived fuel-fired, or liquid oil-fired EGU, you may demonstrate initial compliance with the applicable SO_2 , HCl, or HF emissions limit in Table 1 or 2 to this subpart through use of an SO_2 , HCl, or HF CEMS installed and operated in accordance with part 75 of this chapter or Appendix B to this subpart, as applicable. You may also demonstrate compliance with a filterable PM emission limit in Table 1 or 2 to this subpart through use of a PM CEMS installed, certified, and operated in accordance with §63.10010(i). Initial compliance is achieved if the arithmetic average of 30-boiler operating days of quality-assured CEMS data, expressed in units of the standard (see §63.10007(e)), meets the applicable SO_2, PM, HCl, or HF emissions limit in Table 1 or 2 to this subpart. Use Equation 19-19 of Method 19 in appendix A-7 to part 60 of this chapter to calculate the 30-boiler operating day average emissions rate. (NOTE: For this calculation, the term E_{hj} in Equation 19-19 must be in the same units of measure as the applicable HCl or HF emission limit in Table 1 or 2 to this subpart). (2) For affected coal-fired or solid oil-derived fuel-fired EGUs that demonstrate compliance with the applicable emission limits for total non-mercury HAP metals, individual non-mercury HAP metals, total HAP metals, individual HAP metals, or filterable PM listed in Table 1 or 2 to this subpart using initial performance testing and continuous monitoring with PM CPMS: (i) You must demonstrate initial compliance no later than the applicable date specified in §63.9984(f) for existing EGUs and in paragraph (g) of this section for new EGUs. (ii) You must demonstrate continuous compliance with the PM CPMS site-specific operating limit that corresponds to the results of the performance test demonstrating compliance with the emission limit with which you choose to comply. (iii) You must repeat the performance test annually for the selected pollutant emissions limit and reassess and adjust the site-specific

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	operating limit in accordance with the results of the performance test. (3) For affected EGUs that are either required to or elect to demonstrate initial compliance with the applicable Hg emission limit in Table 1 or 2 of this subpart using Hg CEMS or sorbent trap monitoring systems, initial compliance must be demonstrated no later than the applicable date specified in §63.9984(f) for existing EGUs and in paragraph (g) of this section for new EGUs. Initial compliance is achieved if the arithmetic average of 30-boiler operating days of quality-assured CEMS (or sorbent trap monitoring system) data, expressed in units of the standard (see section 6.2 of appendix A to this subpart), meets the applicable Hg emission limit in Table 1 or 2 to this subpart. (4) For affected liquid oil-fired EGUs that demonstrate compliance with the applicable emission limits for HCl or HF listed in Table 1 or 2 to this subpart using quarterly testing and continuous monitoring with a CMS: (i) You must demonstrate initial compliance no later than the applicable date specified in §63.9984 for existing EGUs and in paragraph (g) of this section for new EGUs. (ii) You must demonstrate continuous compliance with the CMS site-specific operating limit that corresponds to the results of the performance test demonstrating compliance with the HCl or HF emissions limit. (iii) You must repeat the performance test annually for the HCl or HF emissions limit and reassess and adjust the site-specific operating limit in accordance with the results of the performance test. (e) *Tune-ups.* All affected EGUs are subject to the work practice standards in Table 3 of this subpart. As part of your initial compliance demonstration, you must conduct a performance tune-up of your EGU according to §63.10021(e). (f) For existing affected sources a tune-up may occur prior to April 16, 2012, so that existing sources without neural networks have up to 42 calendar months (3 years from promulgation plus 180 days) or, in the case of units employing neural network combustion controls, up to 54 calendar months (48 months from promulgation plus 180 days) after the date that is specified for your source in §63.9984 and according to the applicable provisions in §63.7(a)(2) as cited in Table 9 to this subpart to demonstrate compliance with this requirement. If a tune-up occurs prior to such date, the source must maintain adequate records to show that the tune-up met the requirements of this standard. **§63.10006** - When must I conduct subsequent performance tests or tune-ups? "(a) For liquid oil-fired, solid oil-derived fuel-fired and coal-fired EGUs and IGCC units using PM CPMS to monitor continuous performance with an

Table IV – 1f – MACT Subpart UUUUU	
	applicable emission limit as provided for under §63.10000(c), you must conduct all applicable performance tests according to Table 5 to this subpart and §63.10007 at least every year." "(c) Except where paragraphs (a) or (b) of this section apply, or where you install, certify, and operate a PM CEMS to demonstrate compliance with a filterable PM emissions limit, for liquid oil-, solid oil-derived fuel-, coal-fired and IGCC EGUs, you must conduct all applicable periodic emissions tests for filterable PM, individual, or total HAP metals emissions according to Table 5 to this subpart, §63.10007, and §63.10000(c), except as otherwise provided in §63.10021(d)(1)." "(f) Unless you follow the requirements listed in paragraphs (g) and (h) of this section, performance tests required at least every 3 calendar years must be completed within 35 to 37 calendar months after the previous performance test; performance tests required at least every year must be completed within 11 to 13 calendar months after the previous performance test; and performance tests required at least quarterly must be completed within 80 to 100 calendar days after the previous performance test, except as otherwise provided in §63.10021(d)(1)." "(j) You must report the results of performance tests and performance tune-ups within 60 days after the completion of the performance tests and performance tune-ups. The reports for all subsequent performance tests must include all applicable information required in §63.10031." **§63.10007** - <u>What methods and other procedures must I use for the performance tests?</u> "(a) Except as otherwise provided in this section, you must conduct all required performance tests according to §63.7(d), (e), (f), and (h). You must also develop a site-specific test plan according to the requirements in §63.7(c)."
1f.3	**<u>Monitoring Requirements:</u>** <u>Control of HAPs Emissions</u> **§63.10010** - <u>What are my monitoring, installation, operation, and maintenance requirements?</u> "(a) Flue gases from the affected units under this subpart exhaust to the atmosphere through a variety of different configurations, including but not limited to individual stacks, a common stack configuration or a main stack plus a bypass stack. For the CEMS, PM CPMS, and sorbent trap monitoring systems used to provide data under this subpart, the continuous monitoring system installation requirements for these exhaust

Table IV – 1f – MACT Subpart UUUUU	
	configurations are as follows: (1) *Single unit-single stack configurations.* For an affected unit that exhausts to the atmosphere through a single, dedicated stack, you shall either install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the stack or at a location in the ductwork downstream of all emissions control devices, where the pollutant and diluents concentrations are representative of the emissions that exit to the atmosphere. (2) *Unit utilizing common stack with other affected unit(s).* When an affected unit utilizes a common stack with one or more other affected units, but no non-affected units, you shall either: (i) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the duct leading to the common stack from each unit; or (ii) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the common stack." "(4) *Unit with a main stack and a bypass stack.* If the exhaust configuration of an affected unit consists of a main stack and a bypass stack, you shall install CEMS on both the main stack and the bypass stack, or, if it is not feasible to certify and quality-assure the data from a monitoring system on the bypass stack, you shall install a CEMS only on the main stack and count bypass hours of deviation from the monitoring requirements." **§63.10011** - How do I demonstrate initial compliance with the emissions limits and work practice standards? (a) You must demonstrate initial compliance with each emissions limit that applies to you by conducting performance testing. (b) If you are subject to an operating limit in Table 4 to this subpart, you demonstrate initial compliance with HAP metals or filterable PM emission limit(s) through performance stack tests and you elect to use a PM CPMS to demonstrate continuous performance, or if, for a liquid oil-fired unit, and you use quarterly stack testing for HCl and HF plus site-specific parameter monitoring to demonstrate continuous performance, you must also establish a site-specific operating limit, in accordance with Table 4 to this subpart, §63.10007, and Table 6 to this subpart. You may use only the parametric data recorded during successful performance tests (*i.e.*, tests that demonstrate compliance with the applicable emissions limits) to establish an operating limit. (c)(1) If you use CEMS or sorbent trap monitoring systems to measure a HAP (e.g., Hg or HCl) directly, the first 30-boiler operating day (or, if alternate emissions averaging is used for Hg, the 90-boiler operating day) rolling average emission rate obtained with certified CEMS after the applicable date in §63.9984 (or, if applicable, prior to that date, as described in §63.10005(b)(2)), expressed in units of the standard, is the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	initial performance test. Initial compliance is demonstrated if the results of the performance test meet the applicable emission limit in Table 1 or 2 to this subpart. (2) For a unit that uses a CEMS to measure SO_2 or PM emissions for initial compliance, the first 30 boiler operating day average emission rate obtained with certified CEMS after the applicable date in §63.9984 (or, if applicable, prior to that date, as described in §63.10005(b)(2)), expressed in units of the standard, is the initial performance test. Initial compliance is demonstrated if the results of the performance test meet the applicable SO_2 or filterable PM emission limit in Table 1 or 2 to this subpart." "(e) You must submit a Notification of Compliance Status containing the results of the initial compliance demonstration, according to §63.10030(e). (f)(1) You must determine the fuel whose combustion produces the least uncontrolled emissions, *i.e.*, the cleanest fuel, either natural gas or distillate oil, that is available on site or accessible nearby for use during periods of startup or shutdown. (2) Your cleanest fuel, either natural gas or distillate oil, for use during periods of startup or shutdown determination may take safety considerations into account. (g) You must follow the startup or shutdown requirements given in Table 3 for each coal-fired, liquid oil-fired, and solid oil-derived fuel-fired EGU." **<u>Continuous Compliance Requirements</u>** **§63.10020** - <u>How do I monitor and collect data to demonstrate continuous compliance?</u> "(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.10000(d). (b) You must operate the monitoring system and collect data at all required intervals at all times that the affected EGU is operating, except for periods of monitoring system malfunctions or out-of-control periods (see §63.8(c)(7) of this part), and required monitoring system quality assurance or quality control activities, including, as applicable, calibration checks and required zero and span adjustments. You are required to affect monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable. (c) You may not use data recorded during EGU startup or shutdown or monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	associated control system. (d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments), failure to collect required data is a deviation from the monitoring requirements." **§63.10021 -** <u>How do I demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards?</u> "(a) You must demonstrate continuous compliance with each emissions limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that applies to you, according to the monitoring specified in Tables 6 and 7 to this subpart and paragraphs (b) through (g) of this section. (b) Except as otherwise provided in §63.10020(c), if you use a CEMS to measure SO_2 , PM, HCl, HF, or Hg emissions, or using a sorbent trap monitoring system to measure Hg emissions, you must demonstrate continuous compliance by using all quality-assured hourly data recorded by the CEMS (or sorbent trap monitoring system) and the other required monitoring systems (e.g., flow rate, CO_2 , O_2 , or moisture systems) to calculate the arithmetic average emissions rate in units of the standard on a continuous 30-boiler operating day (or, if alternate emissions averaging is used for Hg, 90-boiler operating day) rolling average basis, updated at the end of each new boiler operating day. Use Equation 8 to determine the 30- (or, if applicable, 90-) boiler operating day rolling average. $$Boiler\ operating\ day\ average = \frac{\sum_{i=1}^{n} Her_i}{n}\ (Eq.\ 8)$$ Where: Her_i is the hourly emissions rate for hour i and n is the number of hourly emissions rate values collected over 30- (or, if applicable, 90-) boiler operating days. "(d) If you use quarterly performance testing to demonstrate compliance with one or more applicable emissions limits in Table 1 or 2 to this subpart, you (1) May skip performance testing in those quarters during which less than 168 boiler operating hours occur, except that a performance test must be conducted at least once every calendar year. (2) Must conduct the performance test as defined in Table 5 to this subpart and calculate the results of the testing in units of the applicable emissions standard; and (3) Must conduct site-specific monitoring for a liquid oil-fired unit to ensure

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	compliance with the HCl and HF emission limits in Tables 1 and 2 to this subpart, in accordance with the requirements of §63.10000(c)(2)(iii). The monitoring must meet the general operating requirements provided in §63.10020(a). "(e) If you must conduct periodic performance tune-ups of your EGU(s), as specified in paragraphs (e)(1) through (9) of this section, perform the first tune-up as part of your initial compliance demonstration. Notwithstanding this requirement, you may delay the first burner inspection until the next scheduled unit outage provided you meet the requirements of §63.10005. Subsequently, you must perform an inspection of the burner at least once every 36 calendar months unless your EGU employs neural network combustion optimization during normal operations in which case you must perform an inspection of the burner and combustion controls at least once every 48 calendar months. (1) As applicable, inspect the burner and combustion controls, and clean or replace any components of the burner or combustion controls as necessary upon initiation of the work practice program and at least once every required inspection period. Repair of a burner or combustion control component requiring special order parts may be scheduled as follows: (i) Burner or combustion control component parts needing replacement that affect the ability to optimize NO_X and CO must be installed within 3 calendar months after the burner inspection, (ii) Burner or combustion control component parts that do not affect the ability to optimize NO_X and CO may be installed on a schedule determined by the operator; (2) As applicable, inspect the flame pattern and make any adjustments to the burner or combustion controls necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available, or in accordance with best combustion engineering practice for that burner type; (3) As applicable, observe the damper operations as a function of mill and/or cyclone loadings, cyclone and pulverizer coal feeder loadings, or other pulverizer and coal mill performance parameters, making adjustments and effecting repair to dampers, controls, mills, pulverizers, cyclones, and sensors; (4) As applicable, evaluate wind box pressures and air proportions, making adjustments and effecting repair to dampers, actuators, controls, and sensors; (5) Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly. Such inspection may include calibrating excess O_2 probes and/or sensors, adjusting overfire air systems, changing software parameters, and calibrating associated

Table IV – 1f – MACT Subpart UUUUU	
	actuators and dampers to ensure that the systems are operated as designed. Any component out of calibration, in or near failure, or in a state that is likely to negate combustion optimization efforts prior to the next tune-up, should be corrected or repaired as necessary; (6) Optimize combustion to minimize generation of CO and NO_X. This optimization should be consistent with the manufacturer's specifications, if available, or best combustion engineering practice for the applicable burner type. NO_X optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, adjusting combustion zone temperature profiles, and add-on controls such as SCR and SNCR; CO optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, and adjusting combustion zone temperature profiles; (7) While operating at full load or the predominantly operated load, measure the concentration in the effluent stream of CO and NO_X in ppm, by volume, and oxygen in volume percent, before and after the tune-up adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). You may use portable CO, NO_X and O_2 monitors for this measurement. EGU's employing neural network optimization systems need only provide a single pre- and post-tune-up value rather than continual values before and after each optimization adjustment made by the system; (8) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (e)(1) through (e)(9) of this section including: (i) The concentrations of CO and NO_X in the effluent stream in ppm by volume, and oxygen in volume percent, measured before and after an adjustment of the EGU combustion systems; (ii) A description of any corrective actions taken as a part of the combustion adjustment; and (iii) The type(s) and amount(s) of fuel used over the 12 calendar months prior to an adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period; and (9) Report the dates of the initial and subsequent tune-ups as follows: (i) If the first required tune-up is performed as part of the initial compliance demonstration, report the date of the tune-up in hard copy (as specified in §63.10030) and electronically (as specified in §63.10031). Report the date of each subsequent tune-up electronically (as specified in §63.10031). (ii) If the first tune-up is not conducted as part of the initial compliance

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	demonstration, but is postponed until the next unit outage, report the date of that tune-up and all subsequent tune-ups electronically, in accordance with §63.10031." "(f) You must submit the reports required under §63.10031 and, if applicable, the reports required under appendices A and B to this subpart. The electronic reports required by appendices A and B to this subpart must be sent to the Administrator electronically in a format prescribed by the Administrator, as provided in §63.10031. CEMS data (except for PM CEMS and any approved alternative monitoring using a HAP metals CEMS) shall be submitted using EPA's Emissions Collection and Monitoring Plan System (ECMPS) Client Tool. Other data, including PM CEMS data, HAP metals CEMS data, and CEMS performance test detail reports, shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool, the Compliance and Emissions Data Reporting Interface, or alternate electronic file format, all as provided for under §63.10031. (g) You must report each instance in which you did not meet an applicable emissions limit or operating limit in Tables 1 through 4 to this subpart or failed to conduct a required tune-up. These instances are deviations from the requirements of this subpart. These deviations must be reported according to §63.10031. (h) You must keep records as specified in §63.10032 during periods of startup and shutdown. (i) You must provide reports as specified in §63.10031 concerning activities and periods of startup and shutdown."
1f.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** Control of HAPs Emissions **Notification, Reports, and Records** **§63.10032** - What records must I keep? "(a) You must keep records according to paragraphs (a)(1) and (2) of this section. If you are required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, you must also keep the records required under appendix A and/or appendix B to this subpart. (1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv). (2) Records of performance stack tests, fuel analyses, or other compliance

Table IV – 1f – MACT Subpart UUUUU	
	demonstrations and performance evaluations, as required in §63.10(b)(2)(viii). (b) For each CEMS and CPMS, you must keep records according to paragraphs (b)(1) through (4) of this section. (1) Records described in §63.10(b)(2)(vi) through (xi). (2) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3). (3) Request for alternatives to relative accuracy test for CEMS as required in §63.8(f)(6)(i). (4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period. (c) You must keep the records required in Table 7 to this subpart including records of all monitoring data and calculated averages for applicable PM CPMS operating limits to show continuous compliance with each emission limit and operating limit that applies to you. (d) For each EGU subject to an emission limit, you must also keep the records in paragraphs (d)(1) through (3) of this section. (1) You must keep records of monthly fuel use by each EGU, including the type(s) of fuel and amount(s) used. (2) Not Applicable. (3) Not Applicable." "(f) You must keep records of the occurrence and duration of each startup and/or shutdown. (g) You must keep records of the occurrence and duration of each malfunction of an operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment. (h) You must keep records of actions taken during periods of malfunction to minimize emissions in accordance with §63.10000(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. (i) You must keep records of the type(s) and amount(s) of fuel used during each startup or shutdown." **§63.10033** - <u>In what form and how long must I keep my records?</u> "(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). (b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. (c) You must keep each record on site for at least 2 years after the date of

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years."
1f.5	**Reporting Requirements:** Control of HAPs Emissions **Notification, Reports, and Records** **§63.10030** - What notifications must I submit and when? "(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) that apply to you by the dates specified. (b) As specified in §63.9(b)(2), if you startup your EGU that is an affected source before April 16, 2012, you must submit an Initial Notification not later than 120 days after April 16, 2012." "(d) When you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin. (e) 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 (7), as applicable. (1) A description of the affected source(s) including identification of which subcategory the source is in, the design capacity of the source, a description of the add-on controls used on the source, description of the fuel(s) burned, including whether the fuel(s) were determined by you or EPA through a petition process to be a non-waste under 40 CFR 241.3, whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of 40 CFR 241.3, and justification for the selection of fuel(s) burned during the performance test. (2) Summary of the results of all performance tests and fuel analyses and calculations conducted to demonstrate initial compliance including all established operating limits. (3) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing; fuel moisture analyses; performance testing with operating limits (e.g., use of PM CPMS); CEMS; or a sorbent trap monitoring system. (4) Identification of whether you plan to demonstrate compliance by emissions averaging. (5) A signed certification that you have met all applicable emission limits and work practice standards.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(6) If you had a deviation from any emission limit, work practice standard, or operating limit, you must also submit a brief description of the deviation, the duration of the deviation, emissions point identification and the cause of the deviation in the Notification of Compliance Status report. (7) In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following: (i) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable. If you are conducting stack tests once every 3 years consistent with §63.10006(b), the date of the last three stack tests, a comparison of the emission level you achieved in the last three stack tests to the 50 percent emission limit threshold required in §63.10006(i), and a statement as to whether there have been any operational changes since the last stack test that could increase emissions. (ii) Certifications of compliance, as applicable, and must be signed by a responsible official stating: (A) "This EGU complies with the requirements in §63.10021(a) to demonstrate continuous compliance." and (B) "No secondary materials that are solid waste were combusted in any affected unit." **§63.10031** - <u>What reports must I submit and when?</u> "(a) You must submit each report in Table 8 to this subpart that applies to you. If you are required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, you must also submit the electronic reports required under appendix A and/or appendix B to the subpart, at the specified frequency. (b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 8 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section. (1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.9984 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in §63.9984. (2) The first compliance report must be postmarked or submitted electronically no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.9984. (3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	reporting period from July 1 through December 31. (4) Each subsequent compliance report must be postmarked or submitted electronically no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. (5) For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section. (c) The compliance report must contain the information required in paragraphs (c)(1) through (4) of this section. (1) The information required by the summary report located in 63.10(e)(3)(vi). (2) The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure. (3) Indicate whether you burned new types of fuel during the reporting period. If you did burn new types of fuel you must include the date of the performance test where that fuel was in use. (4) Include the date of the most recent tune-up for each unit subject to the requirement to conduct a performance tune-up according to §63.10021(e). Include the date of the most recent burner inspection if it was not done every 36 (or 48) months and was delayed until the next scheduled unit shutdown. (d) For each excess emissions occurring at an affected source where you are using a CMS to comply with that emission limit or operating limit, you must include the information required in §63.10(e)(3)(v) in the compliance report specified in section (c). (e) Each affected source that has obtained a Title V operating permit pursuant to part 70 or part 71 of this chapter must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 8 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	same deviations in the semiannual monitoring report. Submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority. (f) As of January 1, 2012, and within 60 days after the date of completing each performance test, you must submit the results of the performance tests required by this subpart to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using those test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority. (1) Within 60 days after the date of completing each CEMS (SO_2 , PM, HCl, HF, and Hg) performance evaluation test, as defined in §63.2 and required by this subpart, you must submit the relative accuracy test audit (RATA) data (or, for PM CEMS, RCA and RRA data) required by this subpart to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). The RATA data shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (*http://www.epa.gov/ttn/chief/ert/index.html*). Only RATA data compounds listed on the ERT Web site are subject to this requirement. Owners or operators who claim that some of the information being submitted for RATAs is confidential business information (CBI) shall submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) by registered letter to EPA and the same ERT file with the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	CBI omitted to EPA via CDX as described earlier in this paragraph. The compact disk or other commonly used electronic storage media shall be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. At the discretion of the delegated authority, owners or operators shall also submit these RATAs to the delegated authority in the format specified by the delegated authority. Owners or operators shall submit calibration error testing, drift checks, and other information required in the performance evaluation as described in § 63.2 and as required in this chapter. (2) For a PM CEMS, PM CPMS, or approved alternative monitoring using a HAP metals CEMS, within 60 days after the reporting periods ending on March 31st, June 30th, September 30th, and December 31st, you must submit quarterly reports to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). You must use the appropriate electronic reporting form in CEDRI or provide an alternate electronic file consistent with EPA's reporting form output format. For each reporting period, the quarterly reports must include all of the calculated 30-boiler operating day rolling average values derived from the CEMS and PM CPMS. (3) Reports for an SO_2 CEMS, a Hg CEMS or sorbent trap monitoring system, an HCl or HF CEMS, and any supporting monitors for such systems (such as a diluent or moisture monitor) shall be submitted using the ECMPS Client Tool, as provided for in Appendices A and B to this subpart and §63.10021(f). (4) Submit the compliance reports required under paragraphs (c) and (d) of this section and the notification of compliance status required under §63.10030(e) to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). You must use the appropriate electronic reporting form in CEDRI or provide an alternate electronic file consistent with EPA's reporting form output format. (5) All reports required by this subpart not subject to the requirements in paragraphs (f)(1) through (4) of this section must be sent to the Administrator at the appropriate address listed in §63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraphs (f)(1), (2), and (3) of this section in paper format. (g) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded."

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 2	
2.0	**<u>Emissions Unit Number(s): F-CT1 thru F-CT6: Combustion Turbines</u>** **F-CT1 and F-CT2** – Two (2) General Electric Frame-5 combustion turbines each rated at 20 MW and used for black start capability and peaking service. These combustion turbines are fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack. **[4-0068 & 4-0069]** **F-CT3, F-CT4, F-CT5, F-CT6** – Four (4) General Electric Frame 7 combustion turbine each rated at 65 MW and used for peaking service. These combustion turbines are fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack. [**4-0070, 4-0071, 4-0073 & 4-0074]**
2.1	**<u>Applicable Standards/Limits</u>:** A. <u>Control of Visible Emissions</u> **COMAR 26.11.09.05A (1) & (3)** – <u>Fuel Burning Equipment</u> "Areas I, II, V, and VI. In Areas I, II, V, and VI, 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 greater than 20 percent opacity. <u>Exceptions</u>. 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." B. <u>Control of Sulfur Oxides</u> **COMAR 26.11.09.07A(1)** - <u>Sulfur Content Limitations for Fuel</u>. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI: (a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
	premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour; (b) Residual fuel oils, 2.0 percent; **(c) Distillate fuel oils, 0.3 percent;** (d) Process gas used as fuel, 0.3 percent." C. Control of Nitrogen Oxides **COMAR 26.11.09.08G**. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. "(1)A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; (c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request; (d) Not applicable; and (e) Not applicable." (2) A person who owns or operates a combustion turbine with a capacity factor greater than 15 percent shall meet an hourly average NO_X emission rate of not more than 42 ppm when burning gas or 65 ppm when burning fuel oil (dry volume at 15 percent oxygen) or meet applicable Prevention of Significant Deterioration limits, whichever is more restrictive." CAIR Permit The Permittee shall comply with the requirements of the CAIR Permit issued for this generation station. (Note: This renewal CAIR Permit will be issued in conjunction with this Part 70 permit and is attached to the Part 70 permit as Appendix B)
2.2	**Testing Requirements:** A. Control of Visible Emissions: See Monitoring Requirements. B. Control of Sulfur Oxides:

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
	See Monitoring Requirements. C. Control of Nitrogen Oxides: The Permittee, if the turbines operate more than 500 hours, shall perform a combustion analysis and optimize combustion at least once annually. [**Reference: COMAR 26.11.09.08G(1)(b)]**.
2.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall utilize the computer software program previously installed, or an equivalent computer software program, to prompt the tracking review of the operating hours of each combustion turbine at the Morgantown Plant and to alert Plant personnel to conduct Method 9 Observations as required by Section IV of the Plant's Title V operating permit. [**Reference: March 2008 Consent Decree Section IV: Monitoring Operating Hours, Paragraph 6**]. The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours of operation or at a minimum once per year. The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity: (a) inspect combustion control system and combustion turbine operations, (b) perform all necessary adjustments and/or repairs to the combustion turbine within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the combustion turbine. The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily when combustion turbine operating for 18 minutes until corrective action have reduce visible emissions to less than 20 percent opacity. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides: The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides: See Record Keeping Requirements.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
2.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall keep a copy of the visible emissions readings and the certification of the visible emission reader(s) for at least five years on site and make available to the Department upon request. [**Reference: COMAR 26.11.03.06C**] B. Control of Sulfur Oxides: The Permittee shall maintain records of fuel supplier's certification and shall make records available to the Department upon request. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides The Permittee shall maintain the results of the combustion analysis and any stack tests at the site for at least 5 years and make these results available to the Department and the EPA upon request. [**Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]**
2.5	**Reporting Requirements:** A. Control of Visible Emissions: The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". B. Control of Sulfur Oxides: The Permittee shall report fuel supplier certifications to the Department upon request. **[Reference: COMAR 26.11.09.07C]** C. Control of Nitrogen Oxides The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with the support documentation in the Annual Emission Certification Report. **[Reference: COMAR 26.11.09.08G(1)(a) COMAR 26.11.03.06C].**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3	
3.0	**Emissions Unit Number(s): F-Aux1, F-Aux 3, and F-Aux4: Auxiliary Boilers** **F-Aux1, F-Aux 3, and F-Aux4** - Three (3) Auxiliary boilers, manufactured by CE-Alstom, used for start-up steam and space heat heating. Auxiliary boilers are fired with No.2 fuel oil and each have a maximum rating of 164 mmBtu/hr. **[4-0015, 4-0017 & 4-0018]**
3.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05A (1) & (3)** – Fuel Burning Equipment "Areas I, II, V and VI. In Areas I, II, V and VI, 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 greater than 20 percent opacity. 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." B. Control of Sulfur Oxides **COMAR 26.11.09.07A(1)** - Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI: (a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour; (b) Residual fuel oils, 2.0 percent; **(c) Distillate fuel oils, 0.3 percent;** (d) Process gas used as fuel, 0.3 percent." C. Control of Nitrogen Oxides **COMAR 26.11.09.08G**. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. "(1) A person who owns or operates fuel-burning equipment with a

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3	
	capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; (c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request; (d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request." **Note: COMAR 26.11.09.08B(5)(a)** states that "for the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation".
3.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Sulfur Oxides See Monitoring Requirements. C. Control of Nitrogen Oxides The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the auxiliary boiler that operates more than 500 hours during a calendar year. [**Reference: COMAR 26.11.09.08G(1)(b)]**
3.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3	
	of operation or at a minimum once per year. The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity: (a) inspect combustion control system and boiler operations, (b) perform all necessary adjustments and/or repairs to the boiler within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the auxiliary boiler. The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily for an 18 minute period until corrective action have reduce visible emissions to less than 20 percent opacity. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C].** C. Control of Nitrogen Oxides See Record Keeping Requirements.
3.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall maintain records of all visible emissions observations. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C].** C. Control of Nitrogen Oxides The Permittee shall maintain records of the results of the combustion analyses on site for at least five years and make them available to the Department and EPA upon request. **[Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]**. The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3	
	Department upon request. **[Reference: COMAR 26.11.09.08G(e) & COMAR 26.11.03.06C]**.
3.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report exceedance of 20 percent opacity in accordance with Permit Condition 4,Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations" **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C].** C. Control of Nitrogen Oxides The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with support documentation in Annual Emissions certification Report. **[Reference: COMAR 26.11.03.06C].** The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C].**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 3a	
3a.0	**Emissions Unit Number(s): F-Aux2: Auxiliary Boilers Cont'd** **F-Aux2** - Auxiliary boiler No. 2 manufactured by CE-Alstom (Model #30VP21808R/48) is used for start-up steam and space heat heating. Auxiliary boiler No. 2 is fired with #2 fuel oil and has a maximum rating of 213.3 mmBtu/hr. [**4-0191**] **Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units** **§60.40b** - Applicability (a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour).

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
3a.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05A (1) & (3)** – Fuel Burning Equipment "Areas I, II, V and VI. In Areas I, II, V and VI, 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 greater than 20 percent opacity. 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." B. Control of Particulate Matter **§60.43b** – Standard for particulate matter. "(**f**) On and after the date on which the initial performance test is completed or is required to be completed under 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity." "(**g**) The particulate matter and opacity standards apply at all times, except during periods of startup, shutdown or malfunction." **§60.46b** – Compliance and performance test methods and procedures for particulate matter and nitrogen oxides "(a) The particulate matter emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction, and as specified in paragraphs (i) and (j) of this section. The nitrogen oxides emission standards under §60.44b apply at all times." C. Control of Sulfur Oxides **COMAR 26.11.09.07A(1)** - Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI: (a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour; (b) Residual fuel oils, 2.0 percent; **(c) Distillate fuel oils, 0.3 percent;** (d) Process gas used as fuel, 0.3 percent." **§60.42b** – Standard for sulfur dioxide. "(**d**) On and after the date on which the performance test is completed or required to be completed under §60.8 of this part, whichever comes first, no owner or operator of an affected facility listed in paragraph (d)(1), (2), or (3) of this section shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/million Btu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under this paragraph. (1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a Federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less; (2) Affected facilities located in a noncontinental area; or (3) Affected facilities combusting coal or oil, alone or in combination with any other fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of he heat input to the steam generating unit is from combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat input to the steam generating unit is from the exhaust gases entering the duct burner." D. Control of Nitrogen Oxides **COMAR 26.11.09.08G**. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. (1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; (c) Maintain the results of the combustion analysis at the site for at

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a

least 2 years and make these results available to the Department and the EPA upon request;

(d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

(e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

Note: COMAR 26.11.09.08B(5)(a) states that "for the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation".

§60.44b – Standard for nitrogen oxides

"(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance test for any affected facilities that: (1) Combust, alone or in combination only natural gas, **distillate oil**, or residual oil with a nitrogen content of 0.30 weight percent or less; (2) Have a combined annual capacity factor of 10 percent or less for natural gas, **distillate oil**, and residual oil with a nitrogen content of 0.30 weight percent or less and (3) Are subject to a Federally enforceable requirement limiting operation of the affected facility to firing of natural gas, **distillate oil**, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, **distillate oil** and residual oil and a nitrogen content of 0.30 weight percent or less."

E. Operational Limit:

[Reference: CPCN Case No. 8949, Condition III – Operating Requirements]

(1) Operation of the auxiliary boiler shall not exceed 182,458 mmBtu in any consecutive 12-month period.

(2) Emissions from the auxiliary boiler shall not exceed the rates in the following table:

Pollutant	Maximum Short term rates (lb/mmBtu)*	Maximum Emission Rate (tons per year)
NO_X	0.30	27
SO_2	0.50	40
PM10	0.10	15

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	* Emissions are in pounds per million Btu on a 24-hour average basis.
3a.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Particulate Matter: **§60.46b** – Compliance and performance test methods and procedures for **particulate matter** and nitrogen oxides "(b) Compliance with the particulate matter emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) and (j)." C. Control of Sulfur Oxides: **§60.45b** – Compliance and performance test methods and procedures for sulfur dioxide. "(**a**) The sulfur dioxide emission standards under §60.42b apply at all times." "(**j**) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described §60.49b(r)." D. Control of Nitrogen Oxides The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the auxiliary boiler that operates more than 500 hours during a calendar year. [**Reference: COMAR 26.11.09.08G(1)(b)]**. **§60.46b** – Compliance and performance test methods and procedures for particulate matter and **nitrogen oxides** "(b) Compliance with the particulate matter emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) and (j)." E. Operational Limit: Compliance stack testing of the auxiliary boiler shall be conducted within 180 days of initial start-up to quantify pollutant emissions and demonstrate compliance with the emissions limits specified in Condition III.2 for the following air contaminants: nitrogen oxides ("NO_X") and particulate matter less than 10 microns in diameter ("PM_{10}"). [**Reference: CPCN Case No.**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	8949, Condition IV (1)] At least 30 days prior to conducting any compliance stack test, the Permittee shall submit a test protocol to ARMA for review. Compliance stack testing shall be conducted in accordance with ARMA Technical Memorandum ("TM") 91-01, "Test Methods and Equipment Specifications for Stationary Sources" (January, 1991), as amended by Supplement 1 (1 July 1991), 40 CFR 51, 40 CFR 60, or subsequent test protocols approved by ARMA. Test ports shall be located in accordance with TM 91-01 (January 1991), or subsequent or alternative measures approved by ARMA. "). [**Reference: CPCN Case No. 8949, Condition IV (2)]** Testing shall be performed when operating at a minimum of 90 percent of the design load. If testing cannot be performed at the minimum load, then the actual load during testing shall become the allowable permitted load unless and until testing is performed while operating at a minimum of 90 percent of the design load. "). [**Reference: CPCN Case No. 8949, Condition IV (3)]** In accordance with COMAR 26.11.01.04A, NRG may be required to conduct additional stack tests at any time as may be prescribed by ARMA. [**Reference: CPCN Case No. 8949, Condition IV (4)]** Final results of each compliance stack test must be submitted to ARMA within 60 days of completion of the test. Analytical data shall be submitted to ARMA directly from the emission testing company. . [**Reference: CPCN Case No. 8949, Condition IV (5)]**
3a.3	**<u>Monitoring Requirements:</u>** A. <u>Control of Visible Emissions</u> The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours of operation or at a minimum once per year. The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity: (a) inspect combustion control system and boiler operations, (b) perform all necessary adjustments and/or repairs to the boiler within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the auxiliary boiler. The Permittee shall after 48 hours of operation, if the required

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily for an 18 minute period until corrective action have reduce visible emissions to less than 20 percent opacity. **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter: **§60.48b -** Emission monitoring for **particulate matter** and nitrogen oxides. (j) Units that burn only oil that contains no more than 0.3 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less **are not required to conduct PM emissions monitoring** if they maintain fuel supplier certifications of the sulfur content of the fuels burned. C. Control of Sulfur Oxides The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C].** **§60.47b** – Emission monitoring for sulfur dioxide "(**f**) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the emission monitoring requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r)." D. Control of Nitrogen Oxides See Record Keeping Requirements. **§60.48b** – Emission monitoring for particulate matter and **nitrogen oxides**. (i)"The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) is not required to install or operate a continuous monitoring system for measuring nitrogen oxides emissions." §60.13(i) – "After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following: (2) Alternative monitoring requirements when the affected facility is infrequently operated." E. Operational Limit The Permittee shall calculate the monthly mmBtu over the previous 12-month period for the auxiliary boiler to maintain compliance with the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	182,458-mmBtu limit. **[Reference: COMAR 26.11.03.06C]**
3a.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall maintain records of all visible emissions observations. **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter See Monitoring Requirements. C. Control of Sulfur Oxides The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C].** **§60.49b –** Reporting and recordkeeping requirements "(r) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the reporting period." D. Control of Nitrogen Oxides The Permittee shall maintain records of the results of the combustion analyses and any stack tests on site for at least five years and make them available to the Department and EPA upon request. **[Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]**. The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) & COMAR 26.11.03.06C]**. E. Operational Limit The Permittee shall maintain records of the higher heating value of each shipment of fuel. **[Reference: CPCN Case No. 8949, Condition V (1)]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
3a.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report exceedance of 20 percent opacity in accordance with Permit Condition 4,Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations" B. Control of Particulate Matter. See Monitoring Requirements C. Control of Sulfur Oxides The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C].** D. Control of Nitrogen Oxides The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with the support documentation in the Annual Emission Certification Report. **[Reference: COMAR 26.11.03.06C].** The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C].** **§60.49b -** Reporting and record keeping requirements. (v) The owner or operator of an affected facility may submit electronic quarterly reports for SO_2 and/or NO_X and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format. (w) The reporting period for the reports required under this subpart is each 6-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	E. Operational Limit **§60.49b** – Reporting and record keeping requirements. "(**a**) The owner or operator of each affected facility shall submit notification of the date of initial startup as provided by §60.7." "(**d**) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month." "(**f**) For facilities subject to the opacity standard under §60.43b, the owner or operator shall maintain records of opacity." "(**h**) The owner or operator of any affected facility in any category listed in paragraphs (h) (1) or (2) of this section is required to submit excess emissions reports for any excess emissions which occurred during the reporting period." "(**j**) The owner or operator of any affected facility subject to the sulfur dioxide standards under §60.42b shall submit reports." "(**o**) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record." "(**r**) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the reporting period." "(**w**) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period."

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 3b – MACT, Subpart DDDDD	
3b.0	**Emissions Unit Number(s): F-Aux1, F-Aux2 F-Aux 3, and F-Aux4: Auxiliary Boilers Cont'd**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT, Subpart DDDDD	
	F-Aux1, F-Aux 3, and F-Aux4 - Three (3) Auxiliary boilers, manufactured by CE-Alstom, used for start-up steam and space heat heating. Auxiliary boilers are fired with #2 fuel oil and each have a maximum rating of 164 mmBtu/hr. **[4-0015, 4-0017 & 4-0018]** **F-Aux2** - Auxiliary boiler No. 2 manufactured by CE-Alstom (Model #30VP21808R/48) is used for start-up steam and space heat heating. Auxiliary boiler No. 2 is fired with #2 fuel oil and has a maximum rating of 219.3 mmBtu/hr. [**4-0191**]
3b.1	**Applicable Standards/Limits:** Control of HAPs Emissions **40 CFR Part 63, Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters** **§63.7485 -** Am I subject to this subpart? You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP, except as specified in §63.7491. For purposes of this subpart, a major source of HAP is as defined in §63.2, except that for oil and natural gas production facilities, a major source of HAP is as defined in §63.7575. **§63.7495 -** When do I have to comply with this subpart? "(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by January 31, 2013, or upon startup of your boiler or process heater, whichever is later. (b) If you have an **existing boiler** or process heater, you must comply with this subpart no later than **January 31, 2016**, except as provided in §63.6(i)." "(d) You must meet the notification requirements in §63.7545 according to the schedule in §63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart." "(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 to this subpart." **§63.7500 -** What emission limitations, work practice standards, and

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT, Subpart DDDDD

operating limits must I meet?
"(c) Limited-use boilers and process heaters must complete a tune-up every 5 years as specified in §63.7540. They are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, the annual tune-up, or the energy assessment requirements in Table 3 to this subpart, or the operating limits in Table 4 to this subpart."
"(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 to this subpart."

Table 3 to Subpart DDDDD of Part 63—Work Practice Standards
As stated in §63.7500, you must comply with the following applicable work practice standards:

If your unit is . . .	You must meet the following . . .
1. A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or **a limited use boiler** or process heater	Conduct a tune-up of the boiler or process heater every 5 years as specified in §63.7540.

Limited-use boiler *or process heater* means any boiler or process heater that burns any amount of solid, liquid, or gaseous fuels and has a federally enforceable average annual capacity factor of no more than 10 percent. [§63.7575]

General Compliance Requirements
§63.7505 - What are my general requirements for complying with this subpart?
"(a) You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These limits apply to you at all times the affected unit is operating except for the periods noted in §63.7500(f)."

Operational Limits:
[Reference: §63.12]
F-Aux1, F-Aux 3, and F-Aux4: Auxiliary Boilers 1, 3, & 4 operations shall be limited to an annual capacity factor of 10 percent or less or an annual heat input of not greater than 143,664 million Btu.
F-Aux2: Auxiliary Boiler 2 operation shall be limited to an annual capacity factor of 10 percent or less or an annual heat input of not greater than 182,458 million Btu.
These units shall be defined as limit use boilers as defined in §63.7500(c) & §63.7575.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT, Subpart DDDDD	
3b.2	**Testing Requirements:** Control of HAPs Emissions See Monitoring Requirements.
3b.3	**Monitoring Requirements:** Control of HAPs Emissions **Continuous Compliance Requirements** **§63.7540 -** How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards? "(a) You must demonstrate continuous compliance with each emission limit in Tables 1 and 2 or 11 through 13 to this subpart, the work practice standards in Table 3 to this subpart, and the operating limits in Table 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (19) of this section." "(10) If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. This frequency does not apply to limited-use boilers and process heaters, as defined in §63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio. (i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment; (ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available; (iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection; (iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT, Subpart DDDDD	
	(v) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and (vi) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section, (A) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater; (B) A description of any corrective actions taken as a part of the tune-up; and (C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit." "(12) If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or **meets the definition of limited-use boiler or process heater in §63.7575**, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months." "(13) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup."
3b.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** Control of HAPs Emissions **Notification, Reports, and Records** **§63.7555 -** What records must I keep? "(a) You must keep records according to paragraphs (a)(1) and (2) of this section. (1) A copy of each notification and report that you submitted to comply with

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT, Subpart DDDDD	
	this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv). (2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii)." **§63.7560 -** <u>In what form and how long must I keep my records?</u> "(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). (b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. (c) You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years."
3b.5	**<u>Reporting Requirements</u>:** <u>Control of HAPs Emissions</u> **<u>Notification, Reports, and Records</u>** **§63.7545 -** <u>What notifications must I submit and when?</u> "(a) You must submit to the Administrator all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified. (b) As specified in §63.9(b)(2), if you startup your affected source before January 31, 2013, **you must submit an Initial Notification not later than 120 days after January 31, 2013.** (c) As specified in §63.9(b)(4) and (5), if you startup your new or reconstructed affected source on or after January 31, 2013, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source. (d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin. (e) If you are required to conduct an initial compliance demonstration as specified in §63.7530, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT, Subpart DDDDD	
	and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to §63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8), as applicable. If you are not required to conduct an initial compliance demonstration as specified in §63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8)." **§63.7550 -** <u>What reports must I submit and when?</u> "(a) You must submit each report in Table 9 to this subpart that applies to you. (b) Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report, according to paragraph (h) of this section, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report. (1) The first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on July 31 or January 31, whichever date is the first date that occurs at least 180 days (or 1, 2, or 5 years, as applicable, if submitting an annual, biennial, or 5-year compliance report) after the compliance date that is specified for your source in §63.7495. (2) The first compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in §63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31. (3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31. (4) Each subsequent compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT, Subpart DDDDD	
	5-year compliance reports must be postmarked or submitted no later than January 31. (c) A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule. (1) If the facility is subject to a the requirements of a tune up they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv) and (xiv) of this section. (2) If a facility is complying with the fuel analysis they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv), (vi), (x), (xi), (xiii), (xv) and paragraph (d) of this section. (3) If a facility is complying with the applicable emissions limit with performance testing they must submit a compliance report with the information in (c)(5)(i) through (iv), (vi), (vii), (ix), (xi), (xiii), (xv) and paragraph (d) of this section. (4) If a facility is complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (vi), (xi), (xiii), (xv) through (xvii), and paragraph (e) of this section. (5)(i) Company and Facility name and address. (ii) Process unit information, emissions limitations, and operating parameter limitations. (iii) Date of report and beginning and ending dates of the reporting period. (iv) The total operating time during the reporting period. (v) If you use a CMS, including CEMS, COMS, or CPMS, you must include the monitoring equipment manufacturer(s) and model numbers and the date of the last CMS certification or audit. (vi) The total fuel use by each individual boiler or process heater subject to an emission limit within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure. (vii) If you are conducting performance tests once every 3 years consistent with §63.7515(b) or (c), the date of the last 2 performance tests and a statement as to whether there have been any operational changes since the last performance test that could increase emissions. (viii) A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, you must submit the calculation of chlorine input, using Equation 7 of §63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT, Subpart DDDDD	
	you must submit the calculation of HCl emission rate using Equation 12 of §63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of §63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 13 of §63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of §63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate, using Equation 14 of §63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). (ix) If you wish to burn a new type of fuel in an individual boiler or process heater subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of §63.7530 or the maximum mercury input operating limit using Equation 8 of §63.7530, or the maximum TSM input operating limit using Equation 9 of §63.7530 you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel. (x) A summary of any monthly fuel analyses conducted to demonstrate compliance according to §§63.7521 and 63.7530 for individual boilers or process heaters subject to emission limits, and any fuel specification analyses conducted according to §§63.7521(f) and 63.7530(g). (xi) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period. (xii) If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in §63.8(c)(7), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period. (xiii) If a malfunction occurred during the reporting period, the report must

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT, Subpart DDDDD	
	include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with §63.7500(a)(3), including actions taken to correct the malfunction. (xiv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown. (xv) If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent than the level or control technology contained in the notification of compliance status in §63.7545(e)(5)(i). (xvi) For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values based on the daily CEMS (CO and mercury) and CPMS (PM CPMS output, scrubber pH, scrubber liquid flow rate, scrubber pressure drop) data. (xvii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. (d) For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section. (1) A description of the deviation and which emission limit or operating limit from which you deviated. (2) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken. (3) If the deviation occurred during an annual performance test, provide the date the annual performance test was completed. (e) For each deviation from an emission limit, operating limit, and monitoring requirement in this subpart occurring at an individual boiler or process heater where you are using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (e)(1) through (9) of this section. This includes any deviations from your site-specific monitoring plan as required in §63.7505(d).

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT, Subpart DDDDD	
	(1) The date and time that each deviation started and stopped and description of the nature of the deviation (i.e., what you deviated from). (2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks. (3) The date, time, and duration that each CMS was out of control, including the information in §63.8(c)(8). (4) The date and time that each deviation started and stopped. (5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period. (6) A characterization of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes. (7) A summary of the total duration of CMS's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period. (8) A brief description of the source for which there was a deviation. (9) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation. (f)-(g) [Reserved] (h) You must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this section. (1) Within 60 days after the date of completing each performance test (defined in §63.2) as required by this subpart you must submit the results of the performance tests, including any associated fuel analyses, required by this subpart and the compliance reports required in §63.7550(b) to the EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of the EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to the EPA via CDX as described earlier in this paragraph. At

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT, Subpart DDDDD	
	the discretion of the Administrator, you must also submit these reports, including the confidential business information, to the Administrator in the format specified by the Administrator. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator. (2) Within 60 days after the date of completing each CEMS performance evaluation test (defined in 63.2) you must submit the relative accuracy test audit (RATA) data to the EPA's Central Data Exchange by using CEDRI as mentioned in paragraph (h)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator. (3) You must submit all reports required by Table 9 of this subpart electronically using CEDRI that is accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due the report you must submit the report to the Administrator at the appropriate address listed in § 63.13. At the discretion of the Administrator, you must also submit these reports, to the Administrator in the format specified by the Administrator."

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 4	
4.0	**<u>Emissions Unit Number(s): Coal Barge Unloader</u>** The barge loading facility consists of a dock, barge unloader, a transfer and distribution system and a railcar loading facility. The barge unloader system is sized to unload up to 5.0 million tons of coal per year. The barge unloader's transfer and distribution system is integrated into Morgantown's existing coal handling system. (**6-0138, (CPCN 9031)**)
4.1	**<u>Applicable Standards/Limits</u>:** A. <u>Control of Visible Emissions</u> New Source Performance Standards (NSPS) 40 CFR 60 Subpart Y—Standards of Performance for Coal Preparation Plant (**40 CFR §60.250**)

Table IV – 4	
	(and the associated notification and testing requirements of 40 CFR §60.7, §60.8 and §60.11) which requirements include: (a) NRG shall not cause to be discharged into the atmosphere gases from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system being constructed or modified by the Barge Unloading project which exhibit 20 percent opacity or greater (under 40 CFR §60.252(c)). Specifically, equipment that makes up the modified facilities includes: (1) Mechanical barge unloader; (2) Four conveyor transfer points; (3) Transfer point to rail car loading station; (4) Railcar loading station; and (5) Breaker building. (b) The opacity standards shall apply at all times except during periods of startup, shutdown, or malfunction; (c) At all times, including during periods of startup, shutdown and malfunction, NRG shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. **[Reference: CPCN 9031, condition 10]** B. Control of Particulate Matter **COMAR 26.11.06.03D**. - Particulate Matter from Materials Handling and Construction. Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For the coal piles, unloading, transfer, and loading operation at NRG's Coal Barge Unloading Project, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer: (1) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces, which can create airborne dusts. (2) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. (3) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution **[Reference: CPCN 9031, condition 9c]**
4.2	**Testing Requirements:** A. Control of Visible Emissions Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 4

startup of the coal barge unloading project, NRG shall conduct performance tests in accordance with the methods in NRG's ARMA-approved Performance Test Plan and furnished ARMA and EPA with a written report of the results of such performance test(s). **[Reference: CPCN 9031, condition 14]**

B. Control of Particulate Matter
See Monitoring Requirements.

4.3 **Monitoring Requirements:**

A. Control of Visible Emissions
NRG shall perform a monthly inspection of the coal unloading and handling operations to verify that the reasonable precautions (BMPs) in Condition 12 of the CPCN are being implemented. Visible emission or deviations identified during the inspections shall be promptly corrected. [**Reference: CPCN 9031, condition 15]**

B. Control of Particulate Matter
NRG shall maintain and operate the following barge unloading equipment and its associated particulate matter control mechanisms with the potential to cause air pollution in accordance with original design criteria, vendor recommendations, and best management practices and in such a manner as to ensure full and continuous compliance with all applicable regulations:

Equipment	Control Mechanism
Barge Unloader	Telescoping Unloader
Conveyors	Covers or Enclosures
Transfer Towers	Enclosure
Railcar Transfer Point and Load out Station	Partial Enclosure

[**Reference: CPCN 9031, condition 12a]**

NRG shall develop a coal handling best management practices (BMP) Plan for the coal barge unloader, associated conveyor system and railcar load out station to ensure that reasonable precautions will be used to prevent particulate matter from the coal barge unloading project equipment from becoming airborne. BMP's shall include, but are not limited to minimizing the area of permanent openings, using curtains at permanent openings, where feasible, and keeping doorways or other temporary openings closed when not in use. **[Reference: CPCN 9031, condition 12b]**

4.4 **Record Keeping Requirements:**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

	Table IV – 4
	Note: All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions NRG shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the coal unloading and handling facilities and any malfunction of its associated air pollution control equipment (40CFR 60.7(b). [**Reference: CPCN 9031, condition 18]** B. Control of Particulate Matter NRG shall maintain the written reasonable precautions (BMPs) at the facility. [**Reference: CPCN 9031, condition 16]** NRG shall keep written records of monthly inspections and maintenance performed under Condition 12 of the CPCN for the purposes of minimizing particulate matter emissions. Records shall include descriptions of the results of the inspection and maintenance, and any deviations and actions taken to address any noted deviations. [**Reference: CPCN 9031, condition 17]** All records and logs required by this CPCN shall be maintained at the facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of ARMA. [**Reference: CPCN 9031, condition 20]**
4.5	**Reporting Requirements:** A. Control of Visible Emissions Within 60 days of the initial startup date, NRG shall provide ARMA a Performance Test Plan that describes the proposed method for conducting the initial performance test that will demonstrate compliance with 40CFR 60.252 opacity standard for the affected facilities. The Test Plan shall comply with the requirements of §60.8 and §60.11, as they relate to performing opacity observations. [**Reference: CPCN 9031, condition 13]** All notifications and reports required by 40 CFR 60 and Subpart Y, unless specified otherwise, shall be submitted to: Regional Administrator US Environmental Protection Agency Region III 1650 Arch Street Philadelphia, Pennsylvania 19103-2029

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 4	
	[**Reference: CPCN 9031, condition 22]** NRG shall furnish written notification to ARMA and US EPA of the following events: a) The date constructions is commenced postmarked no later than 30 days after such date; b) The anticipated startup date, not more than 60 or less than 30 days prior to such date; c) The actual date of initial startup postmarked with in 15 days after such date; d) Notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applied postmarked 60 days or as soon as practicable before the change has commenced; and e) The anticipated date for conducting the initial opacity observations (performance tests) postmarked not less than 30 days prior to such date. **[Reference: CPCN 9031, condition 19]** B. <u>Control of Particulate Matter</u> Written records of monthly inspections and maintenance performed under Condition 12 of the CPCN for the purposes of minimizing particulate matter emissions shall be made available to the Department upon request. **[Reference: COMAR 26.11.06.06C**] All air quality notifications and reports required by this CPCN shall be submitted to: Administrator, Compliance Program Air and Radiation Management Administration 1800 Washington Boulevard Baltimore, Maryland 21230 **[Reference: CPCN 9031, condition 21]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 5	
5.0	**Emissions Unit Number(s): Coal Blending System & Gypsum Barge Loading System** The coal blending system is designed to blend various coals with different characteristics to match the specification of the Morgantown's boilers and air quality control equipment. The coal blending system consists of the following subsystems: new stack-out facilities in the south coal yard; underground reclaim facilities in existing south and north coal yards; reclaim transfer point to integrate the reclaim from the north and south coal yards; refurbished and upgraded emergency reclaim; and enclosed transfer station with dust suppression system.**[(017-0014-6-0154), (CPCN 9148)]** The Gypsum Barge Loading System is to convey and load gypsum produced by both the Chalk Point and Morgantown SO_2 FGD systems. The Gypsum Barge Loading System consists of the following subsystems: 1000-tph conveyor system; five transfer towers, one pier tripper conveyor, one telescoping barge load-out conveyor and rail unloading hopper and conveyor for chalk Point gypsum transfer**.[(017-0014-6-0153),(CPCN 9148)]**
5.1	**Applicable Standards/Limits:** Control of Particulate Matter **COMAR 26.11.06.03D**. - Particulate Matter from Materials Handling and Construction. Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For activities associated with NRG's Coal Blending/Gypsum Load out Project, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer: (1) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land; (2) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces, which can create airborne dusts. (3) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. (4) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution **[Reference: CPCN 9148, condition 11]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 5	
5.2	**Testing Requirements:** Control of Particulate Matter See Monitoring Requirements.
5.3	**Monitoring Requirements:** Control of Particulate Matter NRG shall update Morgantown's Best Management Practices (BMP) Plan as required by the facility's Part 70 Operating Permit (Permit No. 24-017-00014), to include the equipment and material handling processes associated with the Project. The Plan shall document what reasonable precautions will be used to prevent particulate matter from project equipment and material handling processes from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. MDE-ARMA shall approve the BMP Plan prior to implementation. **[Reference: CPCN 9148, condition 14]**
5.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** Control of Particulate Matter NRG shall maintain the written records of inspections, testing and monitoring results, and maintenance performed on Project emissions sources for the purposes of minimizing particulate matter emissions and demonstrating that coal blending/gypsum load out operations are meeting the approved BMP Plan. Records shall include description of the result of any inspection and maintenance. [**Reference: CPCN 9148, condition 15]** All records and logs required by CPCN 9148 shall be maintained at the facility for at least five years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of MDE-ARMA. [**Reference: CPCN 9148, condition 17]**
5.5	**Reporting Requirements:** Control of Particulate Matter

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 5	
	Written records of inspections and maintenance performed under Condition 14 of the CPCN for the purposes of minimizing particulate matter emissions shall be made available to the Department upon request. **[Reference: COMAR 26.11.06.06C**] All air quality notifications and reports required by this CPCN shall be submitted to: Administrator, Compliance Program Air and Radiation Management Administration 1800 Washington Boulevard Baltimore, Maryland 21230 **[Reference: CPCN 9148, condition 18]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 6	
6.0	**<u>Emissions Unit Number(s): STAR</u>** The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization (FGD) scrubber system. Exhaust gases are directed through a 125 foot stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems. (**6-0150 (CPCN 9229)**)
6.1	**<u>Applicable Standards/Limits</u>:** **[Reference: CPCN 9229 – Emissions and Operational Requirements]** A. <u>Control of Visible Emissions</u> A-7(c) *Visible Emission from General Sources.* – Prohibits NRG from causing or permitting the discharge of emissions from any installation or building, other than water in an uncombined form, which is greater than 20 percent opacity [COMAR 26.11.06.02C]. B. <u>Control of Particulate Matter Emissions</u>

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	A-7(d) *Particulate Matter from Confined Sources*. – Prohibits NRG from causing or permitting the discharge into the outdoor atmosphere from any confined source of particulate matter in excess of 0.05 grains per dry standard cubic feet (gr/dscf) or 114 milligrams per dry standard cubic meter (mg/dscm) [COMAR 26.11.06.03B]. A-7(e) *Particulate Matter from Unconfined Sources*. – Prohibits NRG from causing or permitting the discharge of emissions from an unconfined source without taking reasonable precautions to prevent particulate matter from becoming airborne [COMAR 26.11.06.03C]. A-7(f) *Particulate Matter from Materials Handling and Construction*. – Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For the unloading, loading and transfer of the materials included at the Morgantown STAR Facility, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer: (1) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land. (2) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts. (3) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations. (4) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution [COMAR 26.11.06.03D]. C. Control of Sulfur Oxides Emissions A-7(g) *Sulfur Dioxide Emissions from General Sources*. – Prohibits NRG from causing or permitting the discharge of emissions in the atmosphere gases containing more than 500 ppm of SO_2 during any 24-hour block average of hourly arithmetic CEMS concentrations [COMAR 26.11.06.05B(1)] A-7(h) *Sulfuric Acid Emissions from General Sources*. - Prohibits NRG from causing or permitting the discharge of emissions in the atmosphere gases containing sulfuric acid, sulfur trioxide, or any combination of them greater than 35 milligrams per cubic meter of emissions of gases reported as

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6

sulfuric acid [COMAR 26.11.06.05B(2)]

D. Control of VOC Emissions

A-7(i) *VOC Emissions from General Sources*. – Prohibits NRG from causing or permitting the discharge of VOC emissions from any installation in excess of 20 lb/day unless the discharge is reduce by 85 percent or more overall [COMAR 26.11.06.06B(2)(c)].

E. Operational Limits

A-8. Annual emissions from the Morgantown STAR Facility shall be less than the following in any consecutive 12-month period, rolling monthly, inclusive of emissions during periods of startup, shutdown and malfunction:

Pollutant	**Emissions Limit for Entire Morgantown STAR Facility (Tons per year)**
Sulfur Dioxide (SO_2)	40
Nitrogen Oxides (NO_X)	25
Carbon Monoxide (CO)	100
SO_2 or NO_X as a Particulate Matter less than 2.5 microns ($PM_{2.5}$) precursor	40

These federally enforceable limits are necessary for the Morgantown STAR Facility project to avoid triggering major modification requirements under Nonattainment New Source Review (NA-NSR) and Prevention of Significant Deterioration (PSD).

A-9. NRG shall install, maintain, and operate the Morgantown STAR Facility equipment inclusive of the fabric filter baghouse and wet FGD scrubber system air pollution control technologies, in accordance with the original design criteria, vendor recommendations and best management practices, and in such a manner to ensure full and continuous compliance with all applicable requirements. The baghouse and wet FGD scrubber shall be in place and operational whenever the STAR process reactor is running [COMAR 26.11.02.02H].

A-10. NRG is only permitted to process fly ash at the STAR Facility obtained from Morgantown, Chalk Point, and Dickerson Generating Stations [COMAR 26.11.02.02H].

A-11. The Morgantown STAR Facility shall not exceed an annual throughput of 360,000 tons of fly ash in any consecutive 12-month period, rolling monthly [COMAR 26.11.02.02H].

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	A-12. NRG is only permitted to use propane as an auxiliary fuel [COMAR 26.11.02.02H].
6.2	**Testing Requirements:** A. Control of Visible Emissions The Permittee shall conduct visible emission observations using EPA Method 9 during the annual stack testing of stationary sources**. [Reference: CPCN 9229, condition A-16(c)]** B. Control of Particulate Matter Emissions See Monitoring Requirements. C. Control of Sulfur Oxides Emissions See Operational Limits. D. Control of VOC Emissions See Record Keeping Requirements. E. Operational Limits See Monitoring Requirements.
6.3	**Monitoring Requirements:** A. Control of Visible Emissions See Record Keeping Requirements. B. Control of Particulate Matter Emissions **[Reference: CPCN 9229 – Best Management Practice Requirements]** A-33. NRG shall update Morgantown's Best Management Practices (BMP) Plan as required by the facility's Part 70 Operating Permit (Permit No. 24-017-00014), to include the STAR Facility ash beneficiation process and associated control equipment and material handling processes associated with the project. The Plan shall document what reasonable precautions will be used to prevent PM from project equipment and material handling processes from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. MDE-ARMA shall approve the BMP Plan prior to implementation [COMAR 26.11.02.02H]. . C. Control of Sulfur Oxides Emissions

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	See Operational Limits. D. Control of VOC Emissions See Best Management Plan Requirements listed under Control of Particulate Emissions. E. Operational Limits **[Reference: CPCN 9229 – Testing and Monitoring Requirements]** A-13. To demonstrate continuous compliance with the federally enforceable emissions limits set forth in Condition A-8, NRG shall install, maintain, and operate a continuous emissions monitoring system (CEMS) for SO_2, NO_X, CO and CO_2 or O_2 for emissions from the STAR process reactor through the exhaust stack in accordance with a CEMS Monitoring Plan approved by MDE-ARMA [COMAR 26.11.02.02H]. A-14. In accordance with operation of the CEMS, the Morgantown STAR Facility is subject to the following requirements: a) Except as otherwise approved by the MDE-ARMA, if NRG is unable to obtain emissions data from CEMS because of a malfunction of the CEMS for more than 2 hours in duration, NRG shall use the alternative measurement method approved by MDE-ARMA; b) The CEMS shall meet the quality assurance criteria of 40 CFR Part 60, Appendix F, as amended, which is incorporated by reference, or if applicable, the quality assurance criteria of 40 CFR 75, Appendix B, as amended; c) Mass emission rates of NO_X, SO_2 and CO in pounds per hour (lb/hr), and heat input in million Btu per hour (MMBtu/hr) or million Btu per day (MMBtu/day) shall be calculated using the equations and emissions factors presented in 40 CFR Part 75, Appendix F; d) As part of the emission calculation determination using 40 CFR Part 75, Appendix F, NRG shall obtain a site-specific F-factor (representing a ratio of volume of dry flue gases generated to the calorific value of the fuel combusted or a ratio of the volume of CO_2 generated to the calorific value of the fuel combusted). The site-specific F-factor shall be determined annually in accordance with the methodology on 40 CFR Part 75, Appendix F. e) The CEMS shall record not less than four equally spaced data points per hour and automatically reduce data in terms of averaging times consistent with the applicable emission standard; and f) The use of CEMS for enforcement purposes shall be as specified in MDE-ARMA's Technical Memorandum 90-01 "Continuous Emissions Monitoring (CEMS) Policies and Procedures," which is incorporated by reference [COMAR 26.11.02.02H]

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
6.4	**Record Keeping Requirements:** A. Control of Visible Emissions The Permittee shall maintain on site for at least five (5) years records of the visible emission observations completed during the annual stack testing of the stationary sources. **[Reference: CPCN 9229 condition A-31]** B. Control of Particulate Matter Emissions **[Reference: CPCN 9229 – Best Management Practice Requirements]** A-34. NRG shall keep written records of inspections, testing and monitoring results and maintenance performed on the Morgantown STAR Facility emissions sources for the purpose of minimizing PM emissions and demonstrating that the project operations are meeting the approved BMP Plan. Records shall include descriptions of the result of any inspection and maintenance [COMAR 26.11.02.02H]. C. Control of Sulfur Oxides Emissions See Operational Limits D. Control of VOC Emissions See Best Management Plan Requirements listed under Control of Particulate Emissions. E. Operational Limits **[Reference: CPCN 9229 – Testing and Monitoring Requirements]** A-18. NRG shall maintain a log of maintenance performed on the STAR process baghouse and wet FGD scrubber. The log of maintenance performed shall include record of dates, a description of the maintenance activity performed, a description of the reason for the maintenance activity (e.g. specific failure, routine) and other corrective actions taken to bring the control equipment into proper operation, if necessary. NRG shall make maintenance records available to MDE-ARMA upon request [COMAR 26.11.02.02H] A-19. NRG shall maintain a record of the STAR Facility fly ash and propane gas monthly throughput and annual throughput based on consecutive 12-month period, rolling monthly. NRG shall make such records available to MDE-ARMA upon request. Fly ash throughput records shall indicate the original source and date of receipt of the fly ash [COMAR 26.11.02.02H]. A-20. NRG shall maintain fuel usage, pollutant concentrations, volumetric flow rates, and any other records necessary to determine the STAR Facility SO_2, NO_X, and CO actual emissions. Emission shall be calculated monthly and annually bases on a consecutive 12-month period, rolling monthly for

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	comparison with the annual emission limits in Condition A-8 [COMAR 26.11.02.02H]. A-21. NRG shall maintain on file the following information related to the CEMS and make such records available to MDE-ARMA upon request: (a) CEMS or monitoring device performance testing measurements, including but not limited to volumetric flow rates, concentrations, and fuel emissions factors; (b) CEMS performance evaluations and data accuracy audit reports; (c) CEMS calibration checks; (d) Adjustments and maintenance performed on the CEMS; (e) Fuel sampling records required for CEMS calculations; and (f) All other data relevant to maintaining compliance with the emissions limits [COMAR 26.11.02.02H]
6.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall submit to the Department within 60 days after completion of the stack test the results of the visible emission observations taken during the annual stack testing of the stationary sources. **[Reference: CPCN 9229 condition A-26]** B. Control of Particulate Matter Emissions The Permittee shall make available to the Department upon request records of the result of any inspection and maintenance activity performed. **[Reference: COMAR 26.11.03.06C]** C. Control of Sulfur Oxides Emissions See Operational Limits. D. Control of VOC Emissions See Best Management Plan Requirements listed under Control of Particulate Emissions. E. Operational Limits **[Reference: CPCN 9229 – Testing and Monitoring Requirements]** A-27. NRG shall submit a quarterly monitoring report to MDE-ARMA, postmarked by the 30th day following the end of each calendar quarter that includes the following information for the STAR Facility: (a) All instances of deviations from permit requirements; (b) Separately the date, time and duration of each startup, shutdown and malfunction that occurred at the STAR Facility including, but not limited to

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	the ash beneficiation process and associated air pollution control systems. The report shall include total monthly and consecutive 12-month total hours of startup, shutdown and malfunction of the STAR Facility equipment; (c) The downtime or malfunction of the CEMS equipment. The report shall include the date and time of each period during which the CEMS was inoperative and the nature of monitoring system repairs or adjustments completed; (d) The STAR Facility monthly hours of operations and annual hours of operation based on a consecutive 12-month period, rolling monthly; (e) The propane gas monthly usage and annual usage based on a consecutive 12-month period, rolling monthly; and (f) The annual emissions of SO_2, NO_X and CO for the STAR Facility based on a consecutive 12-motnh period, rolling monthly. An algorithm, including example calculations and emission factors, explaining the method used to determine emission rates shall be included in the initial quarterly monitoring report. Subsequent submittals of the algorithm and sample calculations are only required if NRG changes the method of calculating emissions or changes emissions factors, or if requested by MDE-ARMA [COMAR 26.11.02.02H]. A-28. NRG shall comply with the following conditions for occurrences of excess emission and deviations from the requirements of this permit: (a) Report any deviation from permit requirements that could endanger human health or environment, by orally notifying MDE-ARMA immediately upon discovery of deviation [COMAR 26.11.01.07C]. (b) Promptly report occurrences of excess emissions, inclusive of periods of start-up and shutdown, expected to last for one hour or longer by orally notifying MDE-ARMA of the onset and termination of the occurrences [COMAR 26.11.01.07C(1)] (c) When requested by MDE-ARMA, NRG shall report all deviations from permit conditions, including those attributable to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to MDE-ARMA. The written report must include the cause, dates and times of the onset and termination of the deviation, as well as the action planned or taken to reduce, eliminate and prevent the recurrence of the deviation [COMAR 26.11.02.02H] (d) When requested by MDE-ARMA, NRG shall submit a written report to MDE-ARMA within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.7C(2) [COMAR 26.11.01.07D(1)]. A-30. NRG shall monitor and report actual greenhouse gas (GHG) emissions in accordance with 40 CFR Part 98. Reporting is required to begin for actual GHG emissions that are generated in the calendar year in

Table IV – 6	
	which the facility begins operation, with the report submitted electronically to EPA by 31 March of the following year and annually thereafter [40 CFR Part 98]. A-31. All records and logs required by this CPCN shall be maintained by NRG at the Morgantown STAR Facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of MDE-ARMA. A-32. All air quality notifications and reports required by this CPCN shall be submitted to [COMAR 26.11.01.05]: Air Quality Compliance Program Administrator Maryland Department of the Environment 1800 Washington Boulevard, Suite 715 Baltimore, Maryland 21230

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

SECTION V INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

(1) No. 3 Stationary internal combustion engines with an output less than 500 brake horsepower (373 kilowatts) and which are not used to generate electricity for sale or for peak or load shaving;

The *specify affected units* are subject to the following requirements:

(A) COMAR 26.11.09.05E(2), Emissions During Idle Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.

(B) COMAR 26.11.09.05E(3), Emissions During Operating Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.

(C) Exceptions:

(i) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

(ii) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(a) Engines that are idled continuously when not in service: 30 minutes
(b) all other engines: 15 minutes.

(iii) COMAR 26.11.09.05E(2) & (3) do not apply while maintenance, repair or testing is being performed by qualified mechanics.

(D) COMAR 26.11.36.03A(1), which establishes that the Permittee may not operate an emergency generator except for emergencies, testing and maintenance purposes.

(E) COMAR 26.11.36.03A(5), which establishes that the Permittee may not operate an emergency generator for testing and engine maintenance purposes between 12:01 a.m. and 2:00 p.m. on any day on which the Department forecasts that the air quality will be a code orange, code red, or code purple unless the engine fails a test and engine maintenance and a re-test are necessary.

(2) No. 2 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

The *specify affected units* are subject to COMAR 26.11.19.09D, which requires that the Permittee control emissions of volatile organic compounds (VOC) from cold degreasing operations by meeting the following requirements:

(a) COMAR 26.11.19.09D(2)(b), which establishes that the Permittee shall not use any VOC degreasing material that exceeds a vapor pressure of 1 mm Hg at 20°C;

(b) COMAR 26.11.19.09D(3)(a—d), which requires that the Permittee implement good operating practices designed to minimize spills and evaporation of VOC degreasing material. These practices, which shall be established in writing and displayed such that they are clearly visible to operators, shall include covers (including water covers), lids, or other methods of minimizing evaporative losses, and reducing the time and frequency during which parts are cleaned;

(c) COMAR 26.11.19.09D(4), which prohibits the use of any halogenated VOC for cold degreasing.

The Permittee shall maintain on site for at least five (5) years, and shall make available to the Department upon request, the following records of operating data:

(a) Monthly records of the total VOC degreasing materials used; and

(b) Written descriptions of good operating practices designed to minimize spills and evaporation of VOC degreasing materials.

(3) ✓ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;

(4) ✓ Brazing, soldering, or welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals and not directly related to plant maintenance, upkeep and repair or maintenance shop activities;

(5) Containers, reservoirs, or tanks used exclusively for:

(a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

(b) No. 2 Storage of lubricating oils;

(c) No. 61 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

(d) No. 1 Storage of motor vehicle gasoline and having individual tank capacities of 2,000 gallons (7.6 cubic meters) or less;

(6) ✓ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;

(7) ✓ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;

(8) ✓ Potable water treatment equipment, not including air stripping equipment;

(9) ✓ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act;

(10) ✓ Natural draft hoods or natural draft ventilators that exhaust air pollutants into the ambient air from manufacturing/industrial or commercial processes;

(11) ✓ Laboratory fume hoods and vents;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION VI STATE-ONLY ENFORCEABLE CONDITIONS

The Permittee is subject to the following State-only enforceable requirements:

Applicable Regulations:

COMAR 26.11.06.08 – Nuisance. "An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be consumed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution."

COMAR 26.11.06.09 - Odors. "A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created."

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

For By-Pass Stack:
F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Standards/Limits:

COMAR 26.11.09.05. – Visible Emissions.
"A. Fuel Burning Equipment.
(4) Fuel Burning Equipment Required to Operate a COM. The owner or operator of fuel burning equipment that is subject to the requirement to install and operate a COM shall demonstrate compliance with the applicable visible emissions limitation specified in §A(1) and (2) of this regulation as follows:
(a) For units with a capacity factor greater than 25 percent, until December 31, 2009, compliance is achieved if visible emissions do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4 percent of the unit's operating time in any calendar quarter, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity, except for 5.0 hours or 0.5 percent of the unit's operating time, whichever is greater;
(ii) Do not exceed 70.0 percent opacity for more than four (4) 6-minute periods, except that coal-fired units equipped with electrostatic precipitators may exceed 70.0 percent opacity for no more than 2.2 hours; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4

hours and do not exceed 70.0 percent opacity for more than two (2) six-minute periods;
(b) For units with a capacity factor greater than 25 percent, beginning January 1, 2010, compliance is achieved if visible emissions do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 2 percent of the unit's operating time in any calendar quarter, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity, except for 5.0 hours or 0.5 percent of the unit's operating time, whichever is greater;
(ii) Do not exceed 70.0 percent opacity for more than four (4) six-minute periods, except that coal-fired units equipped with electrostatic precipitators may exceed 70.0 percent opacity for no more than 2.2 hours; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods;
(c) For units with a capacity factor equal to or less than 25 percent that operate more than 300 hours per quarter, beginning July 1, 2009, compliance with the applicable visible emissions limitation in §A(1) and (2) of this regulation is achieved if, during a calendar quarter, visible emissions do not exceed the applicable standard for more than 20.0 hours, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity for more than 2.2 hours;
(ii) Do not exceed 70 percent for more than four 6-minute periods; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods; and
(d) For units with a capacity factor equal to or less than 25 percent that operate 300 hours or less per quarter, beginning July 1, 2009, compliance with the applicable visible emissions limitation in §A(1) and (2) of this regulation is achieved if, during a calendar quarter, visible emissions do not exceed the applicable standard for more than 12.0 hours, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity for more than 2.2 hours;
(ii) Do not exceed 70.0 percent opacity for more than four 6-minute periods; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods.

(5) Notwithstanding the requirements in §A(4) of this regulation, the Department may determine compliance and noncompliance with the visible emissions limitations specified in §A(1) and (2) of this regulation by performing EPA reference Method 9 observations.
(6) In no instance shall excess emissions exempted under this regulation cause or contribute to a violation of any ambient air quality standard in 40 CFR Part 50, as amended, or any applicable requirements of 40 CFR Part 60, 61, or 63, as amended. “

“B. Determining Violations.
(1) For each unit required to operate a COM pursuant to COMAR 26.11.01.10A(1)(a) and (b), each day during a calendar quarter when the opacity of emissions from that unit during the calendar quarter or calendar day, as applicable, exceeds the emission limitations in §A(4)(a), (b), (c) and (d) of this regulation shall constitute a separate day of violation.
(2) A violation of §A(4)(a)(i), (ii), or (iii), §A(4)(b)(i), (ii) or (iii), §A(4)(c)(i), (ii) or (iii), or §A(4)(d)(i), (ii) or (iii), of this regulation, as applicable, that occur on the same day shall constitute separate violations.
(3) A daily violation that occurs during the same calendar quarter as a quarterly violation is a separate violation. “

“C. Fuel Burning Equipment Subject to Federal COM Requirements. Except for owners or operators of fuel burning equipment subject to any federal requirement that mandates operation of a COM and as provided in §D of this regulation, the owner or operator of fuel burning equipment required to install and operate a COM may discontinue the operation of the COM on fuel burning equipment that is served by a flue gas desulfurization device:
(1) When emissions from the equipment do not bypass the flue gas desulfurization device serving the equipment;
(2) When the flue gas desulfurization device serving the equipment is in operation;
(3) If the owner or operator has demonstrated to the Department's satisfaction, in accordance with 40 CFR §75.14, as amended, and all other applicable State and federal requirements, that water vapor is present in the flue gas from the equipment and would impede the accuracy of opacity measurements; and
(4) If the owner or operator has fully implemented an alternative plan, approved by the Department, for monitoring opacity levels and particulate matter emissions from the stack that includes:
(a) A schedule for monthly observations of visible emissions from the stack by a person trained to perform Method 9 observations; and
(b) Installation and operation of a particulate matter CEM that complies with all applicable State and federal requirements for particulate matter CEMs. “

"D. If, for units equipped with a flue gas desulfurization device, emissions bypass the device and are discharged through a bypass stack, the bypass stack shall be equipped with a COM approved by the Department."

Emissions Unit Number(s): F1 and F2: Boilers [SCR Agreement]

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Standards/Limits:

The Permittee shall install and continuously operate two selective reduction (SCR) nitrogen oxide control devices on Units 1 and 2. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

Subject to Paragraph 3 of this Agreement, NRG agrees that at all times when either Unit 1 or Unit 2 at the Morgantown Generating Station is operating with an SCR control device, particulate matter emissions from each operating Unit, individually, shall not exceed the emission limitation required by Code of Maryland Regulation (COMAR) 26.11.09.06A, or the Unit's baseline actual particulate matter emissions as determined by 40 CFR 52.21(b)(48), whichever is lower. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

Where baseline actual particulate matter emissions from a Unit subject to this Agreement are lower than the emission limitation required by COMAR 26.11.09.06A, particulate matter emissions from such Unit may exceed the Unit's baseline actual emissions, if and only if, NRG obtains the Department's approval, by written amendment to this Agreement, to reduce particulate matter emissions from one or more other emission units at the Morgantown Generating Station by an amount equivalent to the increase in actual particulate matter emissions resulting from the installation of the SCR control device. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

The ammonia emissions from Unit 1 and Unit 2, individually, shall not exceed 3 parts per million (ppm) determined by a stack test conducted on each Unit in accordance with EPA or Department approved test protocols no later than 180 days following the Unit's initial startup with the SCR control device. [**Reference:**

Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]

Testing Requirements:
The Permittee shall conduct a stack test for particulate matter emissions on each Unit in accordance with EPA or Department approved test methods no later than 180 days following the Unit's initial startup with the SCR control device.
[Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]

Monitoring Requirements:
COMAR 26.11.01.11 - Continuous Emission Monitoring Requirements.
"A. Applicability and Exemptions.
(1) The provisions of this regulation apply to:
(a) Fuel-burning equipment burning coal that has a rated heat input capacity of 100 million Btu per hour or greater."
"(2) An owner or operator that is required to install a CEM under any federal requirement is also subject to all of the provisions of this regulation."
B. General Requirements for CEMs.
"(1) An owner or operator subject to this regulation shall:
(a) Before installing a CEM, submit to the Department, for approval by the Department and EPA, a plan containing the CEM design specifications, proposed location, and a description of a proposed alternative measurement method; and
(b) Install and operate a CEM in accordance with the plan approved by the Department and EPA under the provisions of §B(1)(a) of this regulation. "
"(2) The owner or operator of fuel-burning equipment burning coal, with a heat input capacity of 100 million Btu per hour or greater, shall install CEMs to measure and record sulfur dioxide, nitrogen oxide, either oxygen or carbon dioxide, and flow."
"(4) Except as otherwise approved by the Department, if the owner or operator is unable to obtain emissions data from CEMs because of a malfunction of the CEM for more than 2 hours in duration, the owner or operator shall use the alternative measurement method approved by the Department and EPA. "
"C. Quality Assurance for CEMs. A CEM used to monitor a gas concentration shall meet the quality assurance criteria of 40 CFR Part 60, Appendix F, as amended, which is incorporated by reference, or, if applicable, the quality assurance criteria of 40 CFR Part 75, Appendix B, as amended.
D. Monitoring and Determining Compliance.
(1) General. A CEM required by this regulation is the primary method used by the Department to determine compliance or non-compliance with the applicable emission standards established in any permit or approval, administrative or court

order, Certificate of Public Convenience and Necessity, or regulation in this subtitle.
(2) Data Reduction. A CEM used to monitor a gas concentration shall record not less than four equally spaced data points per hour and automatically reduce data in terms of averaging times consistent with the applicable emission standard.
E. Record Keeping and Reporting Requirements.
(1) CEM System Downtime Reporting Requirements.
(a) All CEM system downtime that lasts or is expected to last more than 24 hours shall be reported to the Department by telephone before 10 a.m. of the first regular business day following the breakdown.
(b) The system breakdown report required by §E(1)(a) of this regulation shall include the reason, if known, for the breakdown and the estimated period of time that the CEM will be down. The owner or operator of the CEM shall notify the Department by telephone when an out-of-service CEM is back in operation and producing data that has met performance specifications for accuracy, reliability, and durability of acceptable monitoring systems, as provided in COMAR 26.11.31, and is producing data.
(2) CEM Data Reporting Requirements.
(a) All test results shall be reported in a format approved by the Department.
(b) Certification testing shall be repeated when the Department determines that the CEM data may not meet performance specifications because of component replacement or other conditions that affect the quality of generated data.
(c) A quarterly summary report shall be submitted to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by the Department, and shall include the following:
(i) The cause, time periods, and magnitude of all emissions which exceed the applicable emission standards;
(ii) The source downtime including the time and date of the beginning and end of each downtime period and whether the source downtime was planned or unplanned;
(iii) The time periods and cause of all CEM downtime including records of any repairs, adjustments, or maintenance that may affect the ability of the CEM to meet performance specifications of emission data;
(iv) Quarterly totals of excess emissions, installation downtime, and CEM downtime during the calendar quarter;
(v) Quarterly quality assurance activities;
(vi) Daily calibration activities that include reference values, actual values, absolute or percent of span differences, and drift status; and
(vii) Other information required by the Department that is determined to be necessary to evaluate the data, to ensure that compliance is achieved, or to determine the applicability of this regulation.
(d) All information required by this regulation to be reported to the Department shall be retained and made available for review by the Department for a

minimum of 2 years from the time the report is submitted. "

Reporting Requirements:
The Permittee shall submit a stack test protocol to the Department for approval and notify the Department of the scheduled test date at least thirty-(30) days in advance of the test. The Permittee shall submit the stack test results to the Department no later than forty-five (45) days following completion of the test. **[Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006**]

Emissions Unit Number(s): F1 and F2: Boilers

Alternate Operating Scenario for Emission Units F1 & F2

The Permittee shall burn used oil and boiler chemical cleaning waste materials in the utility boilers.

COMAR 26.11.09.10 - Requirements to Burn Used Oil and Waste Combustible Fluid as Fuel.

Applicable Regulations:
A. "General Requirements.
(1) A person who proposes to burn used oil or waste combustible fluid in an installation shall submit the following information to the Department:
(a) A description of, and the location of, each fuel-burning equipment or other installation in which the used oil or WCF is to be burned and the rated heat input capacity of each;
(b) The type and amount of fuel currently being used in each installation and the gallons of used oil or WCF expected to be burned annually;
(c) The maximum percentage of used oil or WCF to be burned as fuel in each installation; and
(d) An analysis by an independent laboratory of a representative sample of the used oil or WCF, which shall include the concentration of each of the materials listed in §B of this regulation, the PCB concentration, and the flash point.

(2) A person may burn on-specification used oil in any installation upon submitting the information required in §A(1) of this regulation.
(3) A person who is burning used oil or WCF under a current approval issued by the Department may continue to burn the approved material if:
(a) The person registers the equipment that is burning the used oil or WCF by

submitting the information required in §A(1) of this regulation; and
(b) The used oil or WCF is being burned in an authorized installation.

(4) A person who proposes to burn off-specification used oil or WCF in an installation other than a space heater, as provided in 40 CFR §279.23, is subject to the permit or registration requirements in COMAR 26.11.02.
(5) A person who receives a permit or registration to burn used oil or WCF shall burn only the materials authorized in the permit or registration.
(6) A person may burn off-specification used oil and waste combustible fluid only in those installations listed at 40 CFR §279.12(c)."

B "Specifications for Used Oil.
(1) Except as provided in §B(2) of this regulation, used oil specifications are as follows:

Material	Allowable Level
(a) Lead	100 ppm
(b) Total halogens	4,000 ppm
(c) Arsenic	5 ppm
(d) Cadmium	2 ppm
(e) Chromium	10 ppm
(f) Flash point	100° F minimum

(2) For used oil that does not satisfy the rebuttable presumption for halogens at 40 CFR 279.10(b)(1)(ii) and 279.63, the maximum allowable level for halogens may not exceed 1,000 ppm."

Record keeping
The Permittee shall maintain a record of the quantity of used oil that is burned and analyses by an independent laboratory of representative samples of the used oil.

Healthy Air Act Requirements
These regulations became effective under an Emergency Action on January 18, 2007 and were adopted as permanent regulations on June 17, 2007. They implement the requirements of the Healthy Air Act (Ch. 23, Acts of 2006), which was signed into law on April 6, 2006 and which established emission limitations and related requirements for NO_X, SO_2 and mercury. Regulations .1-.03, .03E, .05 and .06 related to the reductions of NO_X, and SO_2 emissions were submitted to EPA as a revision to Maryland's State Implementation Plan (SIP) on June 12, 2007. The requirements for NO_X, and SO_2 emissions, all except for one were

approved by EPA, as a SIP revision on September 4, 2008 with an effective date of October 6, 2008. The requirements for mercury emissions are not part of the Maryland's SIP and are therefore, part of the State-Only Section.

Emissions Unit Number(s): F1 and F2: Boilers

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Regulations:

COMAR 26.11.27 - Emission Limitations for Power Plant

COMAR 26.11.27.03 – General Requirements

A. An electric generating unit subject to this chapter shall comply with the emission limitations for NO_X, SO_2, and mercury as provided in this regulation.

B. NO_X Emission Limitations.

Healthy Air Act State-Only enforceable NO_X requirement

COMAR 26.11.27.03B(7)(iii) – "Not later than December 31 of the year in which the emission limitation is exceeded, the owner or operator of the affected generating unit or units transfers to the Maryland Environmental Surrender Account, ozone season NO_X allowances equivalent in number to the tons of NO_X emitted in excess of the emission limitation in §B(4) or (6), as applicable".

COMAR 26.11.27.03D. Mercury Emission Limitations.

(1) For the 12 months beginning January 1, 2010 and ending with the 12 months beginning December 1, 2012 to December 1, 2013, each affected facility shall meet 12-month rolling average removal efficiency for mercury of at least 80 percent.

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

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

COMAR 26.11.27.04 - Determining the Mercury Removal Efficiency for Affected Facilities.

A. The procedures of §§B—F of this regulation shall be used to demonstrate compliance with the 12-month rolling average removal efficiency required for mercury by Regulation .03D of this chapter. The owner or operator of an affected facility shall notify the Department of the compliance demonstration method it has elected from §§D—F of this regulation on or before January 1, 2010, for the compliance period that commences on that date and on or before January 1, 2013, for the compliance period that commences on that date. The owner or operator of an electric generating unit that elects to demonstrate compliance with

the required mercury removal efficiency by meeting the mass emissions limitation in §F of this regulation shall utilize that same method for all other electric generating units in the system. Once elected for each affected facility or system, as applicable, the option may not be changed during the designated compliance period, but may be changed for the next compliance period.

B. Determining Mercury Content in Coal and Mercury Flue Gas Emission Rates for Each Affected Electric Generating Unit.
(1) The owner or operator of an electric generating unit subject to this regulation shall, at least once each quarter during a consecutive 18-month period beginning not later than July 1, 2007:
(a) Determine the mercury content of the coal utilized by each affected unit using a test method approved by the Department; and
(b) Conduct a combustion gas test to determine the mercury emission rate in the flue gas upstream of any pollution control measure, including fuel mercury beneficiation.
(2) Combustion gas testing and collection of coal samples to determine the mercury content in coal shall be performed on the same day or days.
(3) The mercury emission rate in the flue gas shall be reported as ounces of mercury per trillion Btu heat input.
(4) Combustion gas testing shall be performed using a test protocol approved by the Department. The test protocol shall be submitted to the Department at least 45 days prior to commencement of testing.
(5) The owner or operator of an affected electric generating unit shall submit to the Department:
(a) The results of tests to determine the mercury content of coal and mercury emission rate in the flue gas upon receipt; and
(b) A demonstration that the combustion gas tests were performed utilizing a coal with a mercury content within the same or lower range as the mercury content of the coal utilized by the electric generating unit during the previous 10 years.

C. Determining the Uncontrolled Mercury Flue Gas Baseline for an Affected Facility.
(1) The uncontrolled mercury emission rate in the flue gas of each electric generating unit subject to this chapter shall be determined as the arithmetic average of the quarterly combustion gas tests required by §B of this regulation expressed as ounces per trillion Btu heat input.
(2) The uncontrolled mercury baseline emission rate for an affected facility shall be determined as the heat input weighted average of the emission rates for the coal-fired electric generating units at the affected facility determined in accordance with §C(1) of this regulation.
(3) The uncontrolled mercury baseline emission rate in §C(1) and (2) of this regulation shall be measured upstream of all pollution control measures,

including fuel mercury beneficiation.

D. Demonstrating Compliance By Measuring Mercury Removal Efficiency.
Compliance with the required mercury removal efficiency is demonstrated at an affected facility when the heat input weighted average of the mercury emission rate of all coal-fired electric generating units at the affected facility, calculated as a 12-month rolling average, is:
(1) For the 12-month period commencing on January 1, 2010, not more than 20 percent of the uncontrolled mercury emission rate established pursuant to §C of this regulation; and
(2) For the 12-month period commencing January 1, 2013 and thereafter, not more than 10 percent of the uncontrolled mercury emission rate established pursuant to §C of this regulation.

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

Affected Facility	Emission Limits Ounces per Trillion Btu Heat Input Beginning	
	January 1, 2010	January 1, 2013
Morgantown	27	14

F. Demonstrating Compliance by Meeting a Mercury Mass Emission Cap.
(1) Compliance with the required mercury removal efficiency is demonstrated at an affected facility when the mass emissions from all affected facilities in a system, measured in pounds as a 12-month rolling average, do not exceed the applicable emission limits in §F(2) of this regulation.

(2) Mercury Emission Limits.

Affected Facility	Emission Limits Pounds per Year Beginning	
	January 1, 2010	January 1, 2013
Morgantown	127	66

(3) In the event that an electric generating unit at an affected facility subject to this chapter permanently ceases operation, the mass emission limitation in §F(2) of this regulation which is applicable to that affected facility shall be reduced proportionally based on the relative capacity, in megawatts, of all the electric generating units at the affected facility which are subject to this regulation.
(4) In the event that an entire affected facility within a system permanently ceases operation, the total mass emission limitation in §F(2) which is applicable to the system shall be reduced by the mass emission limitation applicable to the affected facility.
(5) Except during periods of startup, shutdown, malfunction or maintenance, the owner or operator of an electric generating unit shall ensure that mercury control measures are continuously employed on each unit and properly adjusted for optimal control taking into consideration the operating conditions.

COMAR 26.11.27.05 - Monitoring and Reporting Requirements.
A. Compliance with the emission limitations in this chapter shall be demonstrated with a continuous emission monitoring system that is installed, operated, and certified in accordance with 40 CFR Part 75.

COMAR 26.11.27.05 - Monitoring and Reporting Requirements.
B. Beginning with calendar year 2007 and each year thereafter, the owner or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year.

C. Each report shall include:
(1) Emissions performance results related to compliance with the emission requirements under this chapter;
(2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit;
(3) A current compliance plan; and
(4) Any other information requested by the Department.

Emissions Unit Number(s): STAR

The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization scrubber system. Exhaust gases are directed through a 125 foot

stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems. (**6-0150 (CPCN 9229)**)

[Reference: CPCN 9229]
A-36. Annual emissions from the Morgan STAR Facility shall be less than the following in consecutive 12-month period, rolling monthly, inclusive of emissions during periods of startup, shutdown and malfunction:

Pollutant	**Emission Limit for Entire Morgantown STAR Facility (pounds per year)**
Mercury (Hg)	5

A-37. NRG shall conduct annual performance stack tests of the STAR process reactor to determine compliance with COMAR Title 26, Subtitle 11 for mercury [COMAR 26.11.01.04A. The performance stack tests shall be conducted with a representative composite of fly ash typically combusted in the STAR process reactor at that time. NRG shall submit a stack test protocol to MDE-ARMA for approval, in accordance with Condition A-25.

A-38. NRG shall analyze samples of the unprocessed fly ash entering the STAR process reactor and the processed fly ash exiting the STAR process reactor or mercury concentration on a monthly basis.

A-39. NRG shall submit a quarterly monitoring report to MDE-ARMA, postmarked by the 30th day following the end of each calendar quarter that includes the following information for the STAR Facility:
(a) The actual emissions of mercury for the STAR Facility based on a consecutive 12-month period, rolling monthly. An algorithm, including example calculations, emissions factors, and monthly throughput, explaining the method used to determine emission rates shall be submitted to MDE-ARMA for review and approval at least 60 days prior to the initial quarterly monitoring report. Subsequent submittals of the algorithm and sample calculations are only required if NRG changes the method of calculating emissions, changes emissions factors, or if requested by MDE-ARMA; and
(b) The analysis results for the monthly samples of the unprocessed fly ash and processed fly ash required under Condition A-38.

A-40. NRG shall maintain any records necessary to determine the STAR Facility mercury actual emissions. Emissions shall be calculated monthly and annually based on a consecutive 12-month period, rolling monthly for comparison with the

annual emission limit in Condition A-36.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION I SOURCE IDENTIFICATION

1. DESCRIPTION OF FACILITY

Morgantown Generating Station is engaged in the generation of electric energy. The primary SIC code for this plant is 4911. The major components of the facility consist of two (2) steam units primarily firing bituminous coal, four (4) auxiliary boilers firing on No. 2 fuel oil, six (6) combustion turbines firing on No. 2 fuel oil and their associated fuel storage and handling equipment. The gross winter capacity of the facility is 1580 MW.

Each of the two (2) boilers, manufactured by Combustion Engineering (CE), is rated at 640 MW. Each boiler is a tangentially coal fired supercritical unit with a superheater, single reheat and economizer. Units 1 and 2 are each equipped with Low NO_X burners (LNBs), Electrostatic Precipitators (ESP), Selective Catalytic Reduction (SCR), Over Fire Air (OFA) and Flue Gas Desulfurization (FGD) and exhausted through a 400 foot high stack. When the FGD systems are not in use, the flue gas is exhausted through a 700 foot high by-pass stack. The Units also have the capability of firing on No. 6 oil as an alternative primary fuel.

Three (3) auxiliary boilers are CE (Model #30 VP-12W) package boilers each rated at 164 MMBtu/hr and one (1) auxiliary boiler is a CE (Model 30VP2180R/48) rated at 219.3 MMBtu/hr. These auxiliary boilers fire No. 2 oil and are used for start-up steam and space heating.

Combustion Turbines CT-1 and CT-2 are General Electric (GE) Frame-5 rated at 20 MWs each and are fired on No. 2 fuel oil. These CTs are both used for blackstart and peaking purposes. Combustion Turbines CT-3, 4, 5 and 6 are GE Frame -7 each rated at 65 MW and fired on No. 2 fuel oil. These CTs are used for peaking purposes.

A coal barge unloader system, a gypsum barge loading system, a coal blending system and a fly-ash beneficiation facility (STAR) are also located at the station.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

2. FACILITY INVENTORY LIST

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
F1	3-0002	Unit 1: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and economizer. The Unit is equipped with a LNBs, SCR, FGD and ESP. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No.6 oil as an alternative primary fuel	June 1970
F2	3-0003	Unit 2: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and economizer. The Unit is equipped with a LNBs, SCR, FGD and ESP. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No. 6 oil as an alternative primary fuel	June 1971
F-CT 1	4-0068	General Electric Frame 5 combustion turbine rated at 20 MW and used for black start capability and peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	March 1970
F-CT 2	4-0069	General Electric Frame 5 combustion turbine rated at 20 MW and used for black start capability and peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1971

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
F-CT 3	4-0070	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-CT 4	4-0071	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-CT 5	4-0073	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-CT 6	4-0074	General Electric Frame 7 combustion turbine rated at 65 MW and used for peaking service. The combustion turbine is fired on No. 2 fuel oil. The exhaust gas is vented to a single 20 ft high stack.	June 1973
F-Aux 1	4-0015	Auxiliary boiler No. 1 manufactured by CE-Alstom (Model No.30 VP-12W) is used for start-up steam and space heat heating. Auxiliary boiler No. 1 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	1970
F-Aux 2	4-0191	Auxiliary boiler No. 2 manufactured by CE-Alstom (Model No.30VP21808R/48) is used for start-up steam and space heat heating. Auxiliary boiler No. 2 is fired with No. 2 fuel oil and has a maximum rating of 219.3 mmBtu/hr.	June 2004
F-Aux 3	4-0017	Auxiliary boiler No.3 manufactured by CE-Alstom (Model No.30 VP-12W) is used for start-up steam and space heat heating. Auxiliary boiler No. 3 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	1970
F-Aux 4	4-0018	Auxiliary boiler No. 4 manufactured by CE-Alstom (Model No.30 VP-12W) is used for	1970

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
		start-up steam and space heat heating. Auxiliary boiler No. 4 is fired with No. 2 fuel oil and has a maximum rating of 164 mmBtu/hr.	
Coal Barge Unloader	6-0138 (CPCN 9031)	The barge loading facility consists of a dock, barge unloader, a transfer and distribution system and a railcar loading facility. The barge unloader system is sized to unload up to 5.0 million tons of coal per year. The barge unloader's transfer and distribution system is integrated into Morgantown's existing coal handling system.	October 2007
Gypsum Barge Loading System	017-0014-6-0153 (CPCN 9148)	The Gypsum Barge Loading System is to convey and load gypsum produced by both the Chalk Point and Morgantown SO_2 FGD systems. The Gypsum Barge Loading System consists of the following subsystems: 1000-tph conveyor system; five transfer towers, one pier tripper conveyor, one telescoping barge load-out conveyor and rail unloading hopper and conveyor for chalk Point gypsum transfer.	October 2007
FGD System	(CPCN 9085)	A wet flue gas desulfurization (FGD) system is installed on both Units 1 and 2. The FGD system controls SO_2 and Hg. The FGD system uses limestone slurry with in-situ forced oxidation, producing gypsum by-product. The FGD system consists of the following sub-systems: limestone unloading and storage facilities; limestone slurry preparation and feed; SO_2 absorption tower; gypsum dewatering and loading facilities and two emergency diesel engines.	December 2009
Coal Blending System	017-0014-6-0154 (CPCN 9148)	The coal blending system is designed to blend various coals with different characteristics to match the specification of the Morgantown's boilers and air quality control equipment. The coal blending	March 2010

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
		system consists of the following subsystems: new stack-out facilities in the south coal yard; underground reclaim facilities in existing south and north coal yards; reclaim transfer point to integrate the reclaim from the north and south coal yards; refurbished and upgraded emergency reclaim; and enclosed transfer station with dust suppression system.	
STAR	6-0150 (CPCN 9229)	The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization scrubber system. Exhaust gases are directed through a 125 foot stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems.	December 2011

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION II GENERAL CONDITIONS

1. DEFINITIONS

[COMAR 26.11.01.01] and [COMAR 26.11.02.01]

The words or terms in this Part 70 permit shall have the meanings established under COMAR 26.11.01 and .02 unless otherwise stated in this permit.

2. ACRONYMS

APC	Air Pollution Control
ARMA	Air and Radiation Management Administration
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEM	Continuous Emissions Monitor
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMAR	Code of Maryland Regulations
EPA	United States Environmental Protection Agency
FGD	Flue Gas Desulfurization
FR	Federal Register
gr	grains
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
MDE	Maryland Department of the Environment
MVAC	Motor Vehicle Air Conditioner
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
OTR	Ozone Transport Region
PEM	Particulate Matter Emissions Monitor
PM	Particulate Matter
PM10	Particulate Matter with Nominal Aerodynamic Diameter of 10 micrometers or less
ppm	parts per million
ppb	parts per billion
PSD	Prevention of Significant Deterioration

PTC	Permit to construct
PTO	Permit to operate (State)
SIC	Standard Industrial Classification
SO_2	Sulfur Dioxide
STAR	Staged Turbulent Air Reactor
TAP	Toxic Air Pollutant
tpy	tons per year
VE	Visible Emissions
VOC	Volatile Organic Compounds
WCF	Waste Combustible Fluid

3. EFFECTIVE DATE

The effective date of the conditions in this Part 70 permit is the date of permit issuance, unless otherwise stated in the permit.

4. PERMIT EXPIRATION

[COMAR 26.11.03.13B(2)]

Upon expiration of this permit, the terms of the permit will automatically continue to remain in effect until a new Part 70 permit is issued for this facility provided that the Permittee has submitted a timely and complete application and has paid applicable fees under COMAR 26.11.02.16.

Otherwise, upon expiration of this permit the right of the Permittee to operate this facility is terminated.

5. PERMIT RENEWAL

[COMAR 26.11.03.02B(3)] and [COMAR 26.11.03.02E]

The Permittee shall submit to the Department a completed application for renewal of this Part 70 permit at least 12 months before the expiration of the permit. Upon submitting a completed application, the Permittee may continue to operate this facility pending final action by the Department on the renewal.

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall

submit such supplementary facts or corrected information no later than 10 days after becoming aware that this occurred. The Permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after the date a completed application was submitted, but prior to the release of a draft permit. This information shall be submitted to the Department no later than 20 days after a new requirement has been adopted.

6. CONFIDENTIAL INFORMATION

[COMAR 26.11.02.02G]

In accordance with the provisions of the State Government Article, Sec. 10-611 et seq., Annotated Code of Maryland, all information submitted in an application shall be considered part of the public record and available for inspection and copying, unless the Permittee claims that the information is confidential when it is submitted to the Department. At the time of the request for inspection or copying, the Department will make a determination with regard to the confidentiality of the information. The Permittee, when requesting confidentiality, shall identify the information in a manner specified by the Department and, when requested by the Department, promptly provide specific reasons supporting the claim of confidentiality. Information submitted to the Department without a request that the information be deemed confidential may be made available to the public. Subject to approval of the Department, the Permittee may provide a summary of confidential information that is suitable for public review. The content of this Part 70 permit is not subject to confidential treatment.

7. PERMIT ACTIONS

[COMAR 26.11.03.06E(3)] and [COMAR 26.11.03.20(A)]

This Part 70 permit may be revoked or reopened and revised for cause. The filing of an application by the Permittee for a permit revision or renewal; or a notification of termination, planned changes or anticipated noncompliance by the facility, does not stay a term or condition of this permit.

The Department shall reopen and revise, or revoke the Permittee's Part 70 permit under the following circumstances:

a. Additional requirements of the Clean Air Act become applicable to this facility and the remaining permit term is 3 years or more;

b. The Department or the EPA determines that this Part 70 permit contains a material mistake, or is based on false or inaccurate information supplied by or on behalf of the Permittee;

c. The Department or the EPA determines that this Part 70 permit must be revised or revoked to assure compliance with applicable requirements of the Clean Air Act; or

d. Additional requirements become applicable to an affected source under the Federal Acid Rain Program.

8. PERMIT AVAILABILITY

[COMAR 26.11.02.13G]

The Permittee shall maintain this Part 70 permit in the vicinity of the facility for which it was issued, unless it is not practical to do so, and make this permit immediately available to officials of the Department upon request.

9. REOPENING THE PART 70 PERMIT FOR CAUSE BY THE EPA

[COMAR 26.11.03.20B]

The EPA may terminate, modify, or revoke and reissue a permit for cause as prescribed in 40 CFR §70.7(g)

10. TRANSFER OF PERMIT

[COMAR 26.11.02.02E]

The Permittee shall not transfer this Part 70 permit except as provided in COMAR 26.11.03.15.

11. REVISION OF PART 70 PERMITS – GENERAL CONDITIONS

[COMAR 26.11.03.14] and [COMAR 26.11.03.06A(8)]

a. The Permittee shall submit an application to the Department to revise this Part 70 permit when required under COMAR 26.11.03.15 -.17.

b. When applying for a revision to a Part 70 permit, the Permittee shall comply with the requirements of COMAR 26.11.03.02 and .03 except that the application for a revision need include only information listed that is related to the proposed change to the source and revision to the permit. This information shall be sufficient to evaluate the proposed change and to determine whether it will comply with all applicable requirements of the Clean Air Act.

c. The Permittee may not change any provision of a compliance plan or schedule in a Part 70 permit as an administrative permit amendment or as a minor permit modification unless the change has been approved by the Department in writing.

d. A permit revision is not required for a change that is provided for in this permit relating to approved economic incentives, marketable permits, emissions trading, and other similar programs.

12. SIGNIFICANT PART 70 OPERATING PERMIT MODIFICATIONS

[COMAR 26.11.03.17]

The Permittee may apply to the Department to make a significant modification to its Part 70 Permit as provided in COMAR 26.11.03.17 and in accordance with the following conditions:

a. A significant modification is a revision to the federally enforceable provisions in the permit that does not qualify as an administrative permit amendment under COMAR 26.11.03.15 or a minor permit modification as defined under COMAR 26.11.03.16.

b. This permit does not preclude the Permittee from making changes, consistent with the provisions of COMAR 26.11.03, that would make the permit or particular terms and conditions of the permit irrelevant, such as by shutting down or reducing the level of operation of a

source or of an emissions unit within the source. Air pollution control equipment shall not be shut down or its level of operation reduced if doing so would violate any term of this permit.

c. Significant permit modifications are subject to all requirements of COMAR 26.11.03 as they apply to permit issuance and renewal, including the requirements for applications, public participation, and review by affected states and EPA, except:

(1) An application need include only information pertaining to the proposed change to the source and modification of this permit, including a description of the change and modification, and any new applicable requirements of the Clean Air Act that will apply if the change occurs;

(2) Public participation, and review by affected states and EPA, is limited to only the application and those federally enforceable terms and conditions of the Part 70 permit that are affected by the significant permit modification.

d. As provided in COMAR 26.11.03.15B(5), an administrative permit amendment may be used to make a change that would otherwise require a significant permit modification if procedures for enhanced preconstruction review of the change are followed that satisfy the requirements of 40 CFR 70.7(d)(1)(v).

e. Before making a change that qualifies as a significant permit modification, the Permittee shall obtain all permits-to-construct and approvals required by COMAR 26.11.02.

f. The Permittee shall not make a significant permit modification that results in a violation of any applicable requirement of the Clean Air Act.

g. The permit shield in COMAR 26.11.03.23 applies to a final significant permit modification that has been issued by the Department, to the extent applicable under COMAR 26.11.03.23.

13. MINOR PERMIT MODIFICATIONS

[COMAR 26.11.03.16]

The Permittee may apply to the Department to make a minor modification to the federally enforceable provisions of this Part 70 permit as provided in COMAR 26.11.03.16 and in accordance with the following conditions:

a. A minor permit modification is a Part 70 permit revision that:

(1) Does not result in a violation of any applicable requirement of the Clean Air Act;

(2) Does not significantly revise existing federally enforceable monitoring, including test methods, reporting, record keeping, or compliance certification requirements except by:

(a) Adding new requirements,

(b) Eliminating the requirements if they are rendered meaningless because the emissions to which the requirements apply will no longer occur, or

(c) Changing from one approved test method for a pollutant and source category to another;

(3) Does not require or modify a:

(a) Case-by-case determination of a federally enforceable emissions standard,

(b) Source specific determination for temporary sources of ambient impacts, or

(c) Visibility or increment analysis;

(4) Does not seek to establish or modify a federally enforceable permit term or condition for which there is no corresponding underlying applicable requirement of the Clean Air Act, but that the Permittee has assumed to avoid an applicable requirement to which the source would otherwise be subject, including:

(a) A federally enforceable emissions standard applied to the source pursuant to COMAR 26.11.02.03 to avoid classification as a Title I modification; and

(b) An alternative emissions standard applied to an emissions unit pursuant to regulations promulgated under Section 112(i)(5) of the Clean Air Act

(5) Is not a Title I modification; and

(6) Is not required under COMAR 26.11.03.17 to be processed as a significant modification to this Part 70 permit.

b. Application for a Minor Permit Modification

The Permittee shall submit to the Department an application for a minor permit modification that satisfies the requirements of COMAR 26.11.03.03 which includes the following:

(1) A description of the proposed change, the emissions resulting from the change, and any new applicable requirements that will apply if the change is made;

(2) The proposed minor permit modification;

(3) Certification by a responsible official, in accordance with COMAR 26.11.02.02F, that:

(a) The proposed change meets the criteria for a minor permit modification, and

(b) The Permittee has obtained or applied for all required permits-to-construct required by COMAR 26.11.03.16 with respect to the proposed change;

(4) Completed forms for the Department to use to notify the EPA and affected states, as required by COMAR 26.11.03.07-.12.

c. Permittee's Ability to Make Change

(1) For changes proposed as minor permit modifications to this permit that will require the applicant to obtain a permit to

construct, the permit to construct must be issued prior to the new change.

(2) During the period of time after the Permittee applies for a minor modification but before the Department acts in accordance with COMAR 26.11.03.16F(2):

(a) The Permittee shall comply with applicable requirements of the Clean Air Act related to the change and the permit terms and conditions described in the application for the minor modification.

(b) The Permittee is not required to comply with the terms and conditions in the permit it seeks to modify. If the Permittee fails to comply with the terms and conditions in the application during this time, the terms and conditions of both this permit and the application for modification may be enforced against it.

d. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.16 is not within the scope of this regulation.

e. Minor permit modification procedures may be used for Part 70 permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, but only to the extent that the minor permit modification procedures are explicitly provided for in regulations approved by the EPA as part of the Maryland SIP or in other applicable requirements of the Clean Air Act.

14. ADMINISTRATIVE PART 70 OPERATING PERMIT AMENDMENTS

[COMAR 26.11.03.15]

The Permittee may apply to the department to make an administrative permit amendment as provided in COMAR 26.11.03.15 and in accordance with the following conditions:

a. An application for an administrative permit amendment shall:

(1) Be in writing;

(2) Include a statement certified by a responsible official that the proposed amendment meets the criteria in COMAR 26.11.03.15 for an administrative permit amendment, and

(3) Identify those provisions of this part 70 permit for which the amendment is requested, including the basis for the request.

b. An administrative permit amendment:

(1) Is a correction of a typographical error;

(2) Identifies a change in the name, address, or phone number of a person identified in this permit, or a similar administrative change involving the Permittee or other matters which are not directly related to the control of air pollution;

(3) requires more frequent monitoring or reporting by the Permittee;

(4) Allows for a change in ownership or operational control of a source for which the Department determines that no other revision to the permit is necessary and is documented as per COMAR 26.11.03.15B(4);

(5) Incorporates into this permit the requirements from preconstruction review permits or approvals issued by the Department in accordance with COMAR 26.11.03.15B(5), but only if it satisfies 40 CFR 70.7(d)(1)(v);

(6) Incorporates any other type of change, as approved by the EPA, which is similar to those in COMAR 26.11.03.15B(1)—(4);

(7) Notwithstanding COMAR 26.11.03.15B(1)—(6), all modifications to acid rain control provisions included in this Part 70 permit are governed by applicable requirements promulgated under Title IV of the Clean Air Act; or

(8) Incorporates any change to a term or condition specified as State-only enforceable, if the Permittee has obtained all necessary permits-to-construct and approvals that apply to the change.

c. The Permittee may make the change addressed in the application for an administrative amendment upon receipt by the Department of the application, if all permits-to-construct or approvals otherwise required by COMAR 26.11.02 prior to making the change have first been obtained from the Department.

d. The permit shield in COMAR 26.11.03.23 applies to administrative permit amendments made under Section B(5) of COMAR 26.11.03.15 , but only after the Department takes final action to revise the permit.

e. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.15 is not within the scope of this regulation.

15. OFF-PERMIT CHANGES TO THIS SOURCE

[COMAR 26.11.03.19]

The Permittee may make off-permit changes to this facility as provided in COMAR 26.11.03.19 and in accordance with the following conditions:

a. The Permittee may make a change to this permitted facility that is not addressed or prohibited by the federally enforceable conditions of this Part 70 permit without obtaining a Part 70 permit revision if:

(1) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(2) The change is not subject to any requirements under Title IV of the Clean Air Act;

(3) The change is not a Title I modification; and

(4) The change does not violate an applicable requirement of the Clean Air Act or a federally enforceable term or condition of the permit.

b. For a change that qualifies under COMAR 26.11.03.19, the Permittee shall provide contemporaneous written notice to the Department and the EPA, except for a change to an emissions unit or activity that is exempt from the Part 70 permit application, as provided in COMAR

26.11.03.04. This written notice shall describe the change, including the date it was made, any change in emissions, including the pollutants emitted, and any new applicable requirements of the Clean Air Act that apply as a result of the change.

c. Upon satisfying the requirements of COMAR 26.11.03.19, the Permittee may make the proposed change.

d. The Permittee shall keep a record describing:

(1) Changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement of the Clean Air Act , but not otherwise regulated under this permit; and

(2) The emissions resulting from those changes.

e. Changes that qualify under COMAR 26.11.03.19 are not subject to the requirements for Part 70 revisions.

f. The Permittee shall include each off-permit change under COMAR 26.11.03.19 in the application for renewal of the part 70 permit.

g. The permit shield in COMAR 26.11.03.23 does not apply to off-permit changes made under COMAR 26.11.03.19.

h. The Permittee is subject to enforcement action if it is determined that an off-permit change made under COMAR 26.11.03.19 is not within the scope of this regulation.

16. ON-PERMIT CHANGES TO SOURCES

[COMAR 26.11.03.18]

The Permittee may make on-permit changes that are allowed under Section 502(b)(10) of the Clean Air Act as provided in COMAR 26.11.03.18 and in accordance with the following conditions:

a. The Permittee may make a change to this facility without obtaining a revision to this Part 70 permit if:

(1) The change is not a Title I modification;

(2) The change does not result in emissions in excess of those expressly allowed under the federally enforceable provisions of the Part 70 permit for the permitted facility or for an emissions unit within the facility, whether expressed as a rate of emissions or in terms of total emissions;

(3) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(4) The change does not violate an applicable requirement of the Clean Air Act;

(5) The change does not violate a federally enforceable permit term or condition related to monitoring, including test methods, record keeping, reporting, or compliance certification requirements;

(6) The change does not violate a federally enforceable permit term or condition limiting hours of operation, work practices, fuel usage, raw material usage, or production levels if the term or condition has been established to limit emissions allowable under this permit;

(7) If applicable, the change does not modify a federally enforceable provision of a compliance plan or schedule in this Part 70 permit unless the Department has approved the change in writing; and

(8) This permit does not expressly prohibit the change under COMAR 26.11.03.18.

b. The Permittee shall notify the Department and the EPA in writing of a proposed on-permit change under COMAR 26.11.03.18 not later than 7 days before the change is made. The written information shall include the following information:

(1) A description of the proposed change;

(2) The date on which the change is proposed to be made;

(3) Any change in emissions resulting from the change, including the pollutants emitted;

(4) Any new applicable requirement of the Clean Air Act; and

(5) Any permit term or condition that would no longer apply.

c. The responsible official of this facility shall certify in accordance with COMAR 26.11.02.02F that the proposed change meets the criteria for the use of on-permit changes under COMAR 26.11.03.18.

d. The Permittee shall attach a copy of each notice required by condition b. above to this Part 70 permit.

e. On-permit changes that qualify under COMAR 26.11.03.18 are not subject to the requirements for part 70 permit revisions.

f. Upon satisfying the requirements under COMAR 26.11.03.18, the Permittee may make the proposed change.

g. The permit shield in COMAR 26.11.03.23 does not apply to on-permit changes under COMAR 26.11.03.18.

h. The Permittee is subject to enforcement action if it is determined that an on-permit change made under COMAR 26.11.03.18 is not within the scope of the regulation or violates any requirement of the State air pollution control law.

17. FEE PAYMENT

[COMAR 26.11.02.16A(2) & (5)(b)]

a. The fee for this Part 70 permit is as prescribed in Regulation .19 of COMAR 26.11.02.

b. The fee is due on and shall be paid on or before each 12-month anniversary date of the permit.

c. Failure to pay the annual permit fee constitutes cause for revocation of the permit by the Department.

18. REQUIREMENTS FOR PERMITS-TO-CONSTRUCT AND APPROVALS

[COMAR 26.11.02.09.]

The Permittee may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits-to-construct and approvals:

a. New Source Review source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

b. Prevention of Significant Deterioration source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

c. New Source Performance Standard source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

d. National Emission Standards for Hazardous Air Pollutants source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

e. A stationary source of lead that discharges one ton per year or more of lead or lead compounds measured as elemental lead, permit to construct required, except for generating stations constructed by electric companies;

f. All stationary sources of air pollution, including installations and air pollution control equipment, except as listed in COMAR 26.11.02.10, permit to construct required;

g. In the event of a conflict between the applicability of (a.— e.) above and an exemption listed in COMAR 26.11.02.10, the provision that requires a permit applies.

h. Approval of a PSD or NSR source by the Department does not relieve the Permittee obtaining an approval from also obtaining all permits-to-construct required b y (c.— g.) above.

19. CONSOLIDATION OF PROCEDURES FOR PUBLIC PARTICIPATION

[COMAR 26.11.02.11C] and [COMAR 26.11.03.01K]

The Permittee may request the Department to authorize special procedures for the Permittee to apply simultaneously, to the extent possible, for a permit to construct and a revision to this permit.

These procedures may provide for combined public notices, informational meetings, and public hearings for both permits but shall not adversely affect the rights of a person, including EPA and affected states, to obtain information about the application for a permit, to comment on an application, or to challenge a permit that is issued.

These procedures shall not alter any existing permit procedures or time frames.

20. PROPERTY RIGHTS

[COMAR 26.11.03.06E(4)]

This Part 70 permit does not convey any property rights of any sort, or any exclusive privileges.

21. SEVERABILITY

[COMAR 26.11.03.06A(5)]

If any portion of this Part 70 permit is challenged, or any term or condition deemed unenforceable, the remainder of the requirements of the permit continues to be valid.

22. INSPECTION AND ENTRY

[COMAR 26.11.03.06G(3)]

The Permittee shall allow employees and authorized representatives of the Department, the EPA, and local environmental health agencies, upon presentation of credentials or other documents as may be required by law, to:

a. Enter at a reasonable time without delay and without prior notification the Permittee's property where a Part 70 source is located, emissions-related activity is conducted, or records required by this permit are kept;

b. Have access to and make copies of records required by the permit;

c. Inspect all emissions units within the facility subject to the permit and all related monitoring systems, air pollution control equipment, and practices or operations regulated or required by the permit; and

d. Sample or monitor any substances or parameters at or related to the emissions units at the facility for the purpose of determining compliance with the permit.

23. DUTY TO PROVIDE INFORMATION

[COMAR 26.11.03.06E(5)]

The Permittee shall furnish to the Department, within a reasonable time specified by the Department, information requested in writing by the Department in order to determine whether the Permittee is in compliance with the federally enforceable conditions of this Part 70 permit, or whether cause exists for revising or revoking the permit. Upon request, the Permittee shall also furnish to the Department records required to be kept under the permit.

For information claimed by the Permittee to be confidential and therefore potentially not discloseable to the public, the Department may require the Permittee to provide a copy of the records directly to the EPA along with a claim of confidentiality.

The Permittee shall also furnish to the Department, within a reasonable time specified by the Department, information or records requested in writing by the Department in order to determine if the Permittee is in compliance with the State-only enforceable conditions of this permit.

24. COMPLIANCE REQUIREMENTS

[COMAR 26.11.03.06E(1)] and [COMAR 26.11.03.06A(11)] and [COMAR 26.11.02.05]

The Permittee shall comply with the conditions of this Part 70 permit. Noncompliance with the permit constitutes a violation of the Clean Air Act, and/or the Environment Article Title 2 of the Annotated Code of Maryland and may subject the Permittee to:

a. Enforcement action,

b. Permit revocation or revision,

c. Denial of the renewal of a Part 70 permit, or

d. Any combination of these actions.

The conditions in this Part 70 permit are enforceable by EPA and citizens under the Clean Air Act except for the State-only enforceable conditions.

Under Environment Article Section 2-609, Annotated Code of Maryland, the Department may seek immediate injunctive relief against a person who violates this permit in such a manner as to cause a threat to human health or the environment.

25. CREDIBLE EVIDENCE

Nothing in this permit shall be interpreted to preclude the use of credible evidence to demonstrate noncompliance with any term of this permit.

26. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

[COMAR 26.11.03.06E(2)]

The need to halt or reduce activity in order to comply with the conditions of this permit may not be used as a defense in an enforcement action.

27. CIRCUMVENTION

[COMAR 26.11.01.06]

The Permittee may not install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes emissions which would otherwise constitute a violation of any applicable air pollution control regulation.

28. PERMIT SHIELD

[COMAR 26.11.03.23]

A permit shield as described in COMAR 26.11.03.23 shall apply only to terms and conditions in this Part 70 permit that have been specifically identified as covered by the permit shield. Neither this permit nor COMAR 26.11.03.23 alters the following:

a. The emergency order provisions in Section 303 of the Clean Air Act, including the authority of EPA under that section;

b. The liability of the Permittee for a violation of an applicable requirement of the Clean Air Act before or when this permit is issued or for a violation that continues after issuance;

c. The requirements of the Acid Rain Program, consistent with Section 408(a) of the Clean Air Act;

d. The ability of the Department or EPA to obtain information from a source pursuant to Maryland law and Section 114 of the Clean Air Act; or

e. The authority of the Department to enforce an applicable requirement of the State air pollution control law that is not an applicable requirement of the Clean Air Act.

29. ALTERNATE OPERATING SCENARIOS

[COMAR 26.11.03.06A(9)]

For all alternate operating scenarios approved by the Department and contained within this permit, the Permittee, while changing from one approved scenario to another, shall contemporaneously record in a log maintained at the facility each scenario under which the emissions unit is operating and the date and time the scenario started and ended.

SECTION III PLANT WIDE CONDITIONS

1. PARTICULATE MATTER FROM CONSTRUCTION AND DEMOLITION

[COMAR 26.11.06.03D]

The Permittee shall not cause or permit any building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

2. OPEN BURNING

[COMAR 26.11.07]

Except as provided in COMAR 26.11.07.04, the Permittee shall not cause or permit an open fire from June 1 through August 31 of any calendar year. Prior to any open burning, the Permittee shall request and receive approval from the Department.

3. AIR POLLUTION EPISODE

[COMAR 26.11.05.04]

When requested by the Department, the Permittee shall prepare in writing standby emissions reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning, and Emergency of an air pollution episode.

4. REPORT OF EXCESS EMISSIONS AND DEVIATIONS

[COMAR 26.11.01.07] and [COMAR 26.11.03.06C(7)]

The Permittee shall comply with the following conditions for occurrences of excess emissions and deviations from requirements of this permit, including those in Section VI – State-only Enforceable Conditions:

a. Report any deviation from permit requirements that could endanger human health or the environment, by orally notifying the Department immediately upon discovery of the deviation;

b. Promptly report all occurrences of excess emissions that are expected to last for one hour or longer by orally notifying the Department of the onset and termination of the occurrence;

c. When requested by the Department the Permittee shall report all deviations from permit conditions, including those attributed to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to the Department. The written report shall include the cause, dates and times of the onset and termination of the deviation, and an account of all actions planned or taken to reduce, eliminate, and prevent recurrence of the deviation;

d. The Permittee shall submit to the Department semi-annual monitoring reports that confirm that all required monitoring was performed, and that provide accounts of all deviations from permit requirements that occurred during the reporting periods. Reporting periods shall be January 1 through June 30 and July 1 through December 31, and reports shall be submitted within 30 days of the end of each reporting period. Each account of deviation shall include a description of the deviation, the dates and times of onset and termination, identification of the person who observed or discovered the deviation, causes and corrective actions taken, and actions taken to prevent recurrence. If no deviations from permit conditions occurred during a reporting period, the Permittee shall submit a written report that so states.

e. When requested by the Department, the Permittee shall submit a written report to the Department within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.07D(2).

5. ACCIDENTAL RELEASE PROVISIONS

Should the Permittee become subject to 40 CFR 68 during the term of this permit, the Permittee shall submit risk management plans by the date specified in 40 CFR 68.150 and shall certify compliance with the

requirements of 40 CFR 68 as part of the annual compliance certification as required by 40 CFR 70.

The Permittee shall initiate a permit revision or reopening according to the procedures of 40 CFR 70.7 to incorporate appropriate permit conditions into the Permittee's Part 70 permit.

6. GENERAL TESTING REQUIREMENTS

[COMAR 26.11.01.04]

The Department may require the Permittee to conduct, or have conducted, testing to determine compliance with this Part 70 permit. The Department, at its option, may witness or conduct these tests. This testing shall be done at a reasonable time, and all information gathered during a testing operation shall be provided to the Department.

7. EMISSIONS TEST METHODS

[COMAR 26.11.01.04]

Compliance with the emissions standards and limitations in this Part 70 permit shall be determined by the test methods designated and described below or other test methods submitted to and approved by the Department.

Reference documents of the test methods approved by the Department include the following:

a. 40 CFR 60, appendix A

b. 40 CFR 51, appendix M

c. The Department's Technical Memorandum 91-01 "Test Methods and Equipment Specifications for Stationary Sources", (January 1991), as amended through Supplement 3, (October 1, 1997)

8. EMISSIONS CERTIFICATION REPORT

[COMAR 26.11.01.05-1] and [COMAR 26.11.02.19C] and [COMAR 26.11.02.19D]

The Permittee shall certify actual annual emissions of regulated pollutants from the facility on a calendar year basis.

a. The certification shall be on forms obtained from the Department and submitted to the Department not later than April 1 of the year following the year for which the certification is required;

b. The individual making the certification shall certify that the information is accurate to the individual's best knowledge. The individual shall be:

(1) Familiar with each source for which the certifications forms are submitted, and

(2) Responsible for the accuracy of the emissions information;

c. The Permittee shall maintain records necessary to support the emissions certification including the following information if applicable:

(1) The total amount of actual emissions of each regulated pollutant and the total of all regulated pollutants;

(2) An explanation of the methods used to quantify the emissions and the operating schedules and production data that were used to determine emissions, including significant assumptions made;

(3) Amounts, types and analyses of all fuels used;

(4) Emissions data from continuous emissions monitors that are required by this permit, including monitor calibration and malfunction information;

(5) Identification, description, and use records of all air pollution control equipment and compliance monitoring equipment including:

(a) Significant maintenance performed,
(b) Malfunctions and downtime, and
(c) Episodes of reduced efficiency of all equipment;

(6) Limitations on source operation or any work practice standards that significantly affect emissions; and

(7) Other relevant information as required by the Department.

9. COMPLIANCE CERTIFICATION REPORT

[COMAR 26.11.03.06G(6) and (7)]

The Permittee shall submit to the Department and EPA Region III a report certifying compliance with each term of this Part 70 permit including each applicable standard, emissions limitation, and work practice for the previous calendar year by April 1 of each year.

a. The compliance certification shall include:

(1) The identification of each term or condition of this permit which is the basis of the certification;

(2) The compliance status;

(3) Whether the compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of each source, currently and over the reporting period; and

(5) Any other information required to be reported to the Department that is necessary to determine the compliance status of the Permittee with this permit.

b. The Permittee shall submit the compliance certification reports to the Department and EPA simultaneously.

10. CERTIFICATION BY RESPONSIBLE OFFICIAL

[COMAR 26.11.02.02F]

All application forms, reports, and compliance certifications submitted pursuant to this permit shall be certified by a responsible official as to truth, accuracy, and completeness. The Permittee shall expeditiously notify the Department of an appointment of a new responsible official.

The certification shall be in the following form:
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. SAMPLING AND EMISSIONS TESTING RECORD KEEPING

[COMAR 26.11.03.06C(5)]

The Permittee shall gather and retain the following information when sampling and testing for compliance demonstrations:

a. The location as specified in this permit, and the date and time that samples and measurements are taken;

b. All pertinent operating conditions existing at the time that samples and measurements are taken;

c. The date that each analysis of a sample or emissions test is performed and the name of the person taking the sample or performing the emissions test;

d. The identity of the Permittee, individual, or other entity that performed the analysis;

e. The analytical techniques and methods used; and

f. The results of each analysis.

12. GENERAL RECORDKEEPING

[COMAR 26.11.03.06C(6)]

The Permittee shall retain records of all monitoring data and information that support the compliance certification for a period of five (5) years from the date that the monitoring, sample measurement, application, report or emissions test was completed or submitted to the Department.

These records and support information shall include:

a. All calibration and maintenance records;

b. All original data collected from continuous monitoring instrumentation;

c. Records which support the annual emissions certification; and

d. Copies of all reports required by this permit.

13. GENERAL CONFORMITY

[COMAR 26.11.26.09]

The Permittee shall comply with the general conformity requirements of 40 CFR 93, Subpart B and COMAR 26.11.26.09.

14. ASBESTOS PROVISIONS

[40 CFR 61, Subpart M]

The Permittee shall comply with 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

15. OZONE DEPLETING REGULATIONS

[40 CFR 82, Subpart F]

The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for MVACs in subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the prohibitions and required practices pursuant to 40 CFR 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair or disposal of appliances shall comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

c. Persons performing maintenance, service, repairs or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.

d. Persons performing maintenance, service, repairs or disposal of appliances shall certify with the Administrator pursuant to 40 CFR 82.162.

e. Persons disposing of small appliances, MVACS, and MVAC-like appliances as defined in 40 CFR 82.152, shall comply with record keeping requirements pursuant to 40 CFR 82.166.

f. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.

g. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

16. ACID RAIN PERMIT

The Permittee shall comply with the provisions and all applicable requirements of the renewal Phase II Acid Rain Permit for the affected units that are being issued in conjunction with this permit. See attached Appendix A.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION IV PLANT SPECIFIC CONDITIONS

This section provides tables that include the emissions standards, emissions limitations, and work practices applicable to each emissions unit located at this facility. The Permittee shall comply with all applicable emissions standards, emissions limitations and work practices included herein.

The tables also include testing, monitoring, record keeping and reporting requirements specific to each emissions unit. In addition to the requirements included here in **Section IV**, the Permittee is also subject to the general testing, monitoring, record keeping and reporting requirements included in **Section III – Plant Wide Conditions** of this permit.

Unless otherwise provided in the specific requirements for an emissions unit, the Permittee shall maintain at the facility for at least five (5) years, and shall make available to the Department upon request, all records that the Permittee is required under this section to establish. **[Reference: COMAR 26.11.03.06C(5)(g)]**

Table IV – 1	
1.0	**Emissions Unit Number(s): F1 and F2: Boilers** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and economizer. The Unit is equipped with LNBs, SCR, ESP and FGD. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No.6 oil as an alternative primary fuel. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. The boiler is a tangentially coal-fired supercritical unit with a superheater, single reheat and economizer. The Unit is equipped with LNBs, SCR, ESP and FGD. The unit's exhaust is directed to an individual flue 400 foot stack. When the FGD system is not in service the Unit's exhaust is directed to a 700 foot by-pass stack. The Unit maintains the capability of firing No.6 oil as an alternative primary fuel. (**3-0003**)
1.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05A (1) & (3)** – Fuel Burning Equipment "Areas I, II, V, and VI. In Areas I, II, V, and VI, a person may not cause or

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is greater than 20 percent opacity. 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 Permittee shall comply with the terms of the March 2008 Consent Decree. Compliance with the March 2008 Consent Decree will be considered compliance for **COMAR 26.11.09.05A(1)**. See the details of the March 2008 Consent Decree in Table IV-1b *See State-only Section for additional Requirements for the By-Pass Stack.* B. Control of Particulate Matter Emissions **COMAR 26.11.09.06A(1)** – Fuel-Burning Equipment Constructed Before January 17, 1972. "A person may not cause or permit particulate matter caused by the combustion of solid fuel or residual fuel oil in the fuel burning equipment erected before January 17, 1972, to be discharged into the atmosphere in excess of the amounts shown in Figure 1." ***PM limit is 0.100 pounds per million Btu of heat input by stack test and 0.100 pounds per million Btu of heat input 24-hour rolling average by PEM. (Condition 32 and 40, March 2008 Consent Decree)*** **COMAR 26.11.09.06C**. Determination of Compliance (by stack test). "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." The Permittee shall comply with the terms of the March 2008 Consent Decree. See the details of the March 2008 Consent Decree in Table IV – 1b of the Permit under Emission Units F-1 and F-2. C. Control of Sulfur Oxides (1) **COMAR 26.11.09.07A(1)** - Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI: (a) The combustion of all solid fuels on a premises where the sum total

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1

maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour;
(b) Residual fuel oils, 2.0 percent;
(c) Distillate fuel oils, 0.3 percent;
(d) Process gas used as fuel, 0.3 percent."

See Additional Requirements in Table IV-1e: CPCN 9085.

(2) Emission Limitation for Power Plants requirements*:*
COMAR 26.11.27.03C. SO_2 Emission Limitations.
(1) Except as provided in §E of this regulation, annual SO_2 emissions from each affected electric generating unit may not exceed the number of tons in §C(2) of this regulation.
(2) Annual Tonnage Limitations.

Affected Unit	Annual SO_2 Tonnage Limitations Beginning
	January 1, 2013
Morgantown Unit 1	4678 tons
Morgantown Unit 2	4646 tons
System-wide	18,541 tons

COMAR 26.11.27.03E. System-Wide Compliance Determinations.
(1) Compliance with the emission limitations in §§B and C of this regulation may be achieved by demonstrating that the total number of tons emitted from all electric generating units in a system does not exceed the sum of the tonnage limitations for all electric generating units in that system.
(2) A system-wide compliance determination shall be based only upon emissions from units in Maryland that are subject to the emission limitations in §§B and C of this regulation.
(3) If a unit that is part of a system is transferred to a different person that does not own, operate, lease, or control an affected unit subject to this chapter, the transferred unit shall meet the limitations in §§B and C of this regulation applicable to that electric generating unit.

(3) Acid Rain Permit
The Permittee shall comply with the requirements of the Phase II Acid Rain Permit issued for this generating station. Note: A renewal Phase II Acid Rain Permit will be issued in conjunction with this Part 70 permit and is attached to the Part 70 permit as Appendix A

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	(4) Cross-State Air Pollution Rule **TR SO_2 Group 1 Trading Program 40 CFR Part 97 Subpart CCCCC** The Permittee shall comply with the provisions and requirements of §97.601 through §97.635 **Note: §97.606(c) SO_2 emissions requirements.** For TR SO_2 Group 1 emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source shall hold, in the source's compliance account, TR SO_2 Group 1 allowances available for deduction for such control period under §97.624(a) in an amount not less than the tons of total SO_2 emissions for such control period from all TR SO_2 Group 1 units at the source. Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a TR SO_2 Group 1 allowance transfer must be submitted for recordation in a TR SO_2 Group 1 source's compliance account in order to be available for use in complying with the source's TR SO_2 Group 1 emissions limitation for such control period in accordance with §§97.606 and 97.624. D. Control of Nitrogen Oxides (1) NO_X RACT Requirements **COMAR 26.11.09.08B(5)** - Operator Training. (a) For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. (b) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department." **COMAR 26.11.09.08C**. - Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 250 Million Btu Per Hour or Greater. "(1) A person who owns or operates fuel-burning equipment with a rated heat input capacity of 250 Million Btu per hour or greater shall equip each installation with combustion modifications or other technologies to meet the NO_X emission rates in §C(2) of this regulation. (2) The maximum NO_X emission rates as pounds of NO_X per Million Btu per hour are: (a) 0.45 for tangentially coal fired units located at an electric generating facility (excluding high heat release units); (b) 0.50 for wall coal fired units located at an electric generating facility

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1

(excluding high heat release units);
(c) 0.30 for oil fired or gas/oil fired units located at an electric generating facility;
(d) 0.70 for coal fired cyclone fuel burning equipment located at an electric generating facility from May 1 through September 30 of each year and 1.5 during the period October 1 through April 30 of each year;
(**e) 0.70 for a tangentially coal fired high heat release unit located at an electric generating facility**;
(f) 0.80 for a wall coal fired high heat release unit located at an electric generating facility;
(g) 0.6 for coal fired cell burners at an electric generating facility; and
(h) 0.70 for fuel burning equipment stacks at a non-electric generating facility during the period May 1 through September 30 of each year and 0.99 during the period October 1 through April 30 of each year.
(3) A person who owns or operates fuel burning equipment with a rated heat input capacity of 250 Million Btu per hour or greater shall install, operate, calibrate, and maintain a certified NO_X CEM or an alternative NO_X monitoring method approved by the Department and the EPA on each installation.
COMAR 26.11.09.08B(2)(d) - Demonstration of Compliance. "Except as otherwise established by the Department and approved by the EPA, for a person who establishes compliance with the NO_X emissions standards in this regulation using a CEM, compliance shall be determined as 30-day rolling averages."

(2) Emission Limitation for Power Plants requirements:
COMAR 26.11.27.03B. NO_X Emission Limitations.
"(1) Except as provided in §E of this regulation, annual NO_X emissions from each affected electric generating unit may not exceed the number of tons in §B(2) of this regulation.
(2) Annual Tonnage Limitations.

Affected Unit	Annual NO_X Tonnage Limitations Beginning
	January 1, 2012
Morgantown Unit 1	2094 tons
Morgantown Unit 2	2079 tons
System-wide	8298 tons

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

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1

"(6) Ozone Season Tonnage Limitations.

Affected Unit	Ozone Season NO_X Tonnage Limitations Beginning
	May 1, 2012
Morgantown Unit 1	868 tons
Morgantown Unit 2	864 tons
System-wide	3567 tons

(7) Electric System Reliability During Ozone Seasons.
(a) An exceedance of the NO_X limitations in §B(4) or (6) of this regulation which occurs because PJM Interconnection, LLC or a successor independent system operator, acts to invoke "Maximum Emergency Generation", "Load Reduction", "Voltage Reduction", "Curtailment of Non-essential Building Load", or "Manual Load Dump" procedures in accordance with the current PJM Manual, or a PJM alert preceding such action as to a generating unit that has temporarily shut down in order to avoid potential interruption in electric service and maintain electric system reliability is not a violation of this chapter provided that:
(i) Within 36 hours following the action, the owner or operator of the affected electric generating unit or units notifies the Manager of the Air Quality Compliance Program of the action taken by PJM Interconnection and provides the Department with documentation of the action which is satisfactory to the Department;
(ii) Within 48 hours after completion of the action, the owner or operator of the affected unit or units provides the Department with the estimated NO_X emissions in excess of the emission limitation; and
(iii) *See State-only enforceable section of the permit for additional requirement.*
(b) The owner or operator of an electric generating unit or system, as applicable, shall send written notice to the Manager of the Air Quality Compliance Program not later than 5 business days following the day when the cumulative ozone season NO_X emissions of an electric generating unit or system, as applicable, are:
(i) Equal to approximately 80 percent of the applicable ozone season emission limitation; and
(ii) Equal to the applicable ozone season emission limitation. "

COMAR 26.11.27.03E. System-Wide Compliance Determinations.
"(1) Compliance with the emission limitations in §§B and C of this regulation may be achieved by demonstrating that the total number of tons emitted from all electric generating units in a system does not exceed the sum of the tonnage limitations for all electric generating units in that system.
(2) A system-wide compliance determination shall be based only upon emissions from units in Maryland that are subject to the emission limitations

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	in §§B and C of this regulation. (3) If a unit that is part of a system is transferred to a different person that does not own, operate, lease, or control an affected unit subject to this chapter, the transferred unit shall meet the limitations in §§B and C of this regulation applicable to that electric generating unit." (3) Potomac River Consent Decree The Permittee shall comply with the requirements of Potomac River Consent Decree. See **Table IV- 1a** Note: The Consent Decree establishes a NRG System-Wide Annual NO_X Tonnage Limitation and a System-Wide Ozone Season NO_X Emissions Limitation. Morgantown Units 1 and Unit 2 are included in the NRG System. See the details of the Potomac River Consent Decree under Section F of the Fact Sheet for Emission Units F-1 and F-2. "Beginning May 1, 2007, NRG shall not operate Morgantown Unit 1 unless it has installed and continuously operates, on a year-round basis, Selective Catalytic Reduction technology ("SCR") (or equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 53**] ***SCR was placed into operation on Unit 1 prior to May 2007.*** "Beginning May 1, 2008, NRG shall not operate Morgantown Unit 2 unless it has installed and continuously operates, on a year-round basis, SCR (or an equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 54**] ***SCR was placed into operation on Unit 2 prior to May 2008.*** (4) Acid Rain Permit The Permittee shall comply with the requirements of the renewal Phase II Acid Rain Permit issued for this generating station. Note: A renewal Phase II Acid Rain Permit will be issued in conjunction with this Part 70 permit and is attached to the Part 70 permit as Appendix A. (5) Cross-State Air Pollution Rule **TR NO_X Annual Trading Program 40 CFR Part 97 Subpart AAAAA** The Permittee shall comply with the provisions and requirements of §97.401 through §97.435

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	Note: §97.406(c) NO_X emissions requirements. For TR NO_X Annual emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall hold, in the source's compliance account, TR NO_X Annual allowances available for deduction for such control period under §97.424(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Annual units at the source. Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Annual allowance transfer must be submitted for recordation in a TR NO_X Annual source's compliance account in order to be available for use in complying with the source's TR NO_X Annual emissions limitation for such control period in accordance with §§97.406 and 97.424. **TR NO_X Ozone Season Trading Program 40 CFR Part 97 Subpart BBBBB** The Permittee shall comply with the provisions and requirements of §97.501 through §97.535. **Note: §97.506(c) NO_X emissions requirements**. For TR NO_X Ozone Season emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall hold, in the source's compliance account, TR NO_X Ozone Season allowances available for deduction for such control period under §97.524(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Ozone Season units at the source. Allowance transfer deadline means, for a control period in a given year, midnight of December 1 (if it is a business day), or midnight of the first business day thereafter (if December 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Ozone Season allowance transfer must be submitted for recordation in a TR NO_X Ozone Season source's compliance account in order to be available for use in complying with the source's TR NO_X Ozone Season emissions limitation for such control period in accordance with §§97.506 and 97.524.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
1.2	**Testing Requirements:** A. Control of Visible Emissions: The Permittee shall perform quality assurance procedures on the continuous opacity monitoring system as established in COMAR 26.11.31. **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter: The Permittee in accordance with COMAR 26.11.01.04A(1) and July 22, 1992 Consent Order, shall conduct annual testing. Annual testing shall be performed using EPA Reference Method 5 of 40 CFR Part 60 Appendix A (Section C). The Permittee shall submit a protocol to the Department for approval at least 30 days prior to the scheduled date of the test. **[Reference: COMAR 26.11.03.06C]** C. Control of Sulfur Oxides: 1) See Monitoring Requirements 2) Emission Limitation for Power Plants requirements See Monitoring Requirements. 3) Acid Rain Permit See Monitoring Requirements. 4) Cross-State Air Pollution Rule See Monitoring Requirements. D. Control of Nitrogen Oxides: 1) NO_X RACT Requirements See Monitoring Requirements. 2) Emission Limitation for Power Plants requirements: See Monitoring Requirements. 3) Potomac River Consent Decree See Monitoring Requirements. 4) Acid Rain Permit See Monitoring Requirements.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	5) Cross-State Air Pollution Rule See Monitoring Requirements.
1.3	**<u>Monitoring Requirements:</u>** A. <u>Control of Visible Emissions</u> See Control of Particulate Matter Requirements Table IV-1, 1.3B. *See State-only Section for additional Monitoring Requirements*. B. <u>Control of Particulate Matter</u>: The Permittee shall comply with the requirements of the March 2008 Consent Decree. See the requirements for a Compliance Assurance Monitoring Plan for the bypass stack and requirements for continuous Particulate Emissions Monitoring (PEM) in Table IV-1b: March 2008 Consent Decree and Table IV-1c & 1d – CAM Plan. **[Reference: COMAR 26.11.03.06C]** C. <u>Control of Sulfur Oxides</u> For 1) through 3): The Permittee shall continuously monitor sulfur dioxide emissions using a CEM that meets the requirements of 40 CFR Part 75, Subpart B §75.10A(1) & (2). This continuous monitoring system shall be used to collect emissions information to demonstrate compliance with NAAQS SO_2 standard, the Healthy Air Act limitations, and the Acid Rain Program. **[Reference: COMAR 26.11.03.06C; COMAR 26.11.27.05A, July 22, 1992 Consent Decree and Acid Rain Permit**]. The Permittee shall perform quality control/quality assurance procedures on the continuous emission monitoring system as established in 40 CFR Part 75, Appendix B. **[Reference: COMAR 26.11.01.11C]** 4) Cross-State Air Pollution Rule The Permittee shall comply with the monitoring requirements found in §97.606, §97.630, §97.631, §97.632, and §97.633. D. <u>Control of Nitrogen Oxides</u> For 1) through 4): The Permittee shall operate, calibrate, and maintain a certified NO_X CEM or an alternative NO_X monitoring method approved by the Department and the EPA on each installation. [**Reference: COMAR 26.11.09.08C(3)]** The Permittee shall perform quality control/quality assurance procedures on the continuous emission monitoring system as established in 40 CFR Part 75, Appendix B. **[Reference: COMAR 26.11.01.11C]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	The Permittee shall certify CEMs in accordance with 40 CFR Part 75, Appendix A. **[Reference: COMAR 26.11.09.08B(2)(b)]** 5) Cross-State Air Pollution Rule The Permittee shall comply with the monitoring requirements found in §97.406, §97.430, §97.431, §97.432, and §97.433 for the NO_X Annual Trading Program and §97.506, §97.530, §97.531, §97.532, and §97.533 for the NO_X Ozone Season Trading Program.
1.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions See Control of Particulate Matter Requirements Table IV-1, 1.3B. B. Control of Particulate Matter: The Permittee shall maintain records of all particulate matter emissions tests. **[Reference: COMAR 26.11.03.06C**] The Permittee shall maintain, in an electronic database, the hourly average emission values recorded by all PM CEMS for five (5) years. **[Reference: 2008 Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 32.]** C. Control of Sulfur Oxides 1) The Permittee shall maintain all records necessary to comply with data reporting requirements of COMAR 26.11.01.11E(2). **[Reference COMAR 26.11.01.11E(2)]**. 2) Emission Limitation for Power Plants Requirements: The Permittee shall maintain records sufficient to demonstrate compliance with the requirements of the Healthy Air Act, COMAR 26.11.27. **[Reference: COMAR 26.11.01.05A].** 3) Acid Rain Permit The Acid Rain Permit contains program specific recordkeeping requirements. **[Reference: 40 CFR Part 75, Subpart F].** 4) Cross-State Air Pollution Rule The Permittee shall comply with the recordkeeping requirements found in §97.606, §97.630, and §97.634.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	D. Control of Nitrogen Oxides 1) NO_X RACT Requirements The Permittee shall maintain records necessary for the quarterly emission reports. **[Reference: COMAR 26.11.03.06C]** 2) Emission Limitation for Power Plants requirements: The Permittee shall maintain records sufficient to demonstrate compliance with the requirements of the Healthy Air Act, COMAR 26.11.27. **[Reference: COMAR 26.11.01.05A].** 3) Potomac River Consent Decree The Permittee shall comply with the recordkeeping requirements of the Potomac River Consent Decree. See paragraph 17 in Table IV-1a: Potomac River Consent Decree. **[Reference: COMAR 26.11.03.06C]** 4) Acid Rain Permit The Acid Rain Permit contains program specific recordkeeping requirements. **[Reference: 40 CFR Part 75, Subpart F].** 5) Cross-State Air Pollution Rule The Permittee shall comply with the recordkeeping requirements found in §97.406, §97.430, and §97.434 for the NO_X Annual Trading Program and §97.506, §97.530, and §97.534 for the NO_X Ozone Season Trading Program.
1.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report: All CEM system downtime that lasts or is expected to last more than 24 hours shall be reported to the Department by telephone before 10 a.m. of the first regular business day following the breakdown. The system breakdown report required by Sec. E(1)(a) of this regulation shall include the reason, if known, for the breakdown and the estimated period of time that the CEM will be down. The owner or operator of the CEM shall notify the Department by telephone when an out-of-service CEM is back in operation and producing valid data. **[Reference: COMAR 26.11.01.11E(2)]** The Permittee shall submit: Quarterly summary reports to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by

Table IV – 1	
	the Department, and shall include the following: (i) The cause, time periods, and magnitude of all emissions which exceed the applicable emission standards; (ii) The source downtime including the time and date of the beginning and end of each downtime period and whether the source downtime was planned or unplanned; (iii) The time periods and cause of all CEM downtime including records of any repairs, adjustments, or maintenance that may affect the validity of emission data; (iv) Quarterly totals of excess emissions, installation downtime, and CEM downtime during the calendar quarter; (v) Quarterly quality assurance activities; and (vi) Daily calibration activities that include reference values, actual values, absolute or percent of span differences, and drift status; and (vii) Other information required by the Department that is determined to be necessary to evaluate the data, to ensure that compliance is achieved, or to determine the applicability of this regulation." **[Reference: COMAR 26.11.01.11E(2)]** The Permittee shall comply with the reporting requirements of the March 2008 Consent Decree. **See Table IV-1b: March 2008 Consent Decree** in paragraph 1b.1. B. Control of Particulate Matter: The Permittee shall report the results of the particulate emissions stack test to the Department within 45 days after completion of the testing. **[Reference: COMAR 26.11.03.06C]** The Permittee shall comply with the reporting requirements of the March 2008 Consent Decree. **See Table IV-1b: March 2008 Consent Decree** paragraphs 36. C. Control of Sulfur Oxides 1) The Permittee shall submit a quarterly summary report to the Department not later than 30 days following each calendar quarter that contains the information listed in COMAR 26.11.01.11E(2)(c)(i) through (vii). **[Reference: COMAR 26.11.01.11E(2)]**. 2) The Permittee shall submit a quarterly summary report to the Department not later than 30 days following each calendar quarter that contains the information listed in COMAR 26.11.01.11E(2)(c)(i) through (vii). **[Reference: COMAR 26.11.01.11E(2)]**.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	3) Emission Limitation for Power Plants Requirements: **COMAR 26.11.27.05 -** Monitoring and Reporting Requirements. **B**. Beginning with calendar year 2007 and each year thereafter, the owner or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year. **C**. Each report shall include: (1) Emissions performance results related to compliance with the emission requirements under this chapter; (2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit; (3) A current compliance plan; and (4) Any other information requested by the Department. 4) Acid Rain Permit The Acid Rain Permit contains program specific reporting requirements. **[Reference: 40 CFR Part 75, Subpart G].** 5) Cross-State Air Pollution Rule The Permittee shall comply with the reporting requirements found in §97.606, §97.630, §97.633 and §97.634. D. Control of Nitrogen Oxides 1) NO_X RACT Requirements The Permittee shall submit quarterly emission reports of CEM data to the Department on or before the thirtieth day of the month following the end of each calendar quarter. The emissions report shall contain the information required by COMAR 26.11.01.11E(2) [**Reference: COMAR 26.11.09.08K(1) and COMAR 26.11.03.06C]** 2) Emission Limitation for Power Plants Requirements: **COMAR 26.11.27.05 -** Monitoring and Reporting Requirements. **B**. Beginning with calendar year 2007 and each year thereafter, the owner or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1	
	C. Each report shall include: (1) Emissions performance results related to compliance with the emission requirements under this chapter; (2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit; (3) A current compliance plan; and (4) Any other information requested by the Department. 3) Potomac River Consent Decree The Permittee shall comply with the reporting requirements of the Potomac River Consent Decree. See paragraphs 15 and 18 through 23 in Table IV-1a: Potomac River Consent Decree. **[Reference: COMAR 26.11.03.06C]** 4) Acid Rain Permit The Acid Rain Permit contains program specific reporting requirements. **[Reference: 40 CFR Part 75, Subpart G].** 5) Cross-State Air Pollution Rule The Permittee shall comply with the reporting requirements found in §97.406, §97.430, §97.433 and §97.434 for the NO_X Annual Trading Program and §97.506, §97.530, §97.533, and §97.534 for the NO_X Ozone Season Trading Program.

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 1a – Potomac River Consent Decree	
1a.0	**<u>Emissions Unit Number(s): F1 and F2: Boilers Cont'd</u>** **<u>Potomac River Consent Decree</u>** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)
1a.1	**<u>Applicable Standards/Limits</u>:** D. <u>Control of Nitrogen Oxides</u> "Beginning May 1, 2007, the Permittee shall not operate Morgantown Unit 1 unless it has installed and continuously operates, on a year-round basis, Selective Catalytic Reduction technology ("SCR") (or equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree

30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 53**]
SCR placed into operation on Unit 1 prior to May 2007

"Beginning May 1, 2008, the Permittee shall not operate Morgantown Unit 2 unless it has installed and continuously operates, on a year-round basis, SCR (or an equivalent NO_X control technology approved pursuant to Paragraph 55) so as to achieve a 30-Day Rolling Average Emission Rate from such Unit not greater than 0.100 lb/mmBTU NO_X." **[Reference: Potomac River Consent Decree, Condition 54**]
SCR placed into operation on Unit 2 prior to May 2008.

System-wide Annual Tonnage Limitations for NO_X
1. Except as provided in Paragraph 185,188, or 189 as applicable, NRG shall comply with the following System-Wide Annual Tonnage Limitations for NO_X, which apply to all Units collectively within the NRG System, during each year specified in Table A below:
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 57.]

Note: The NRG system consists of Chalk Point Generating Station Unit 1 and Unit 2; Dickerson Generating Station Unit 1, Unit 2, and Unit 3; **Morgantown Generating Station Unit 1 and Unit 2;** and Potomac River Generating Station Unit 1, Unit 2, Unit 3, Unit 4, and Unit 5. *(Potomac River shut down in October 2012)*. Paragraph 185, 188, and 189 refer to revised requirements that are triggered if NRG severs the Morgantown Station, the Dickerson Station, or both the Morgantown and Dickerson Stations from the NRG System.

Table A

Applicable Year	System-Wide Annual Tonnage Limitations for NO_X
2010 and each year after	16,000 tons

2. Except as provided in Paragraph 185,188, or 189 as applicable, beginning May 1, 2004, for each Ozone Season specified, the sum of the tons by all Units within the NRG System, shall not exceed the following System-Wide Ozone Season Tonnage Limitations for NO_X in Table B below:
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 58.]

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree

Note: The NRG system consists of Chalk Point Generating Station Unit 1 and Unit 2; Dickerson Generating Station Unit 1, Unit 2, and Unit 3**; Morgantown Generating Station Unit 1 and Unit 2**; and Potomac River Generating Station Unit 1, Unit 2, Unit 3, Unit 4, and Unit 5. *(Potomac River shut down in October 2012)*. Paragraph 185, 188, and 189 refer to revised requirements that are triggered if NRG severs the Morgantown Station, the Dickerson Station, or both the Morgantown and Dickerson Stations from the NRG System.

Table B

Applicable Ozone Season	System-Wide Ozone Season Tonnage Limitations for NO_X
2010 and each ozone season thereafter	5,200 tons

3. Except as provided in Paragraph 185,188, or 189 as applicable, beginning May 1, 2008, and continuing for each and every Ozone Season thereafter, the NRG System shall not exceed a System-Wide Ozone Season Emissions Rate of 0.150 lb/mm Btu NO_X.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 59.]

4. If NRG exceeds the limitations specified in Section IV, Subsection C (System-Wide Annual Tonnage Limitations for NO_X) or D (System-Wide Ozone Season Emissions Limitations), NRG may not claim compliance with this Decree by using, tendering, or otherwise applying NO_X Allowances that were obtained prior to lodging of this Decree, or that are subsequently purchased or otherwise obtained, and stipulated penalties apply as set forth in Section XI (Stipulated Penalties). Except as provided in Paragraphs 61 and 66, NO_X Allowances allocated to, or purchased by, or on behalf of, the NRG System may not be used by NRG to meet its own federal and/or State Clean Air Act regulatory requirements to the extent otherwise allowed by law.
[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 60.]

5. Solely for the purpose of compliance with any present or future NO_X trading program set forth in the Maryland State Implementation Plan including the Maryland NO_X Reduction and Trading Program, COMAR 26.11.29-26.11.30, beginning with:
(a) the 2004 Ozone Season and during each Ozone Season thereafter, and
(b) the year that an annual NO_X allowance trading program becomes

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	effective in Maryland, and during each year thereafter, NRG must first use: (1) any and all allowances previously held by NRG; and (2) allowances allocated to individual plants within the NRG System. Only to the extent that such allowances are insufficient to establish compliance with the requirements of those SIPs, NRG may use NO_X Allowances purchased or otherwise obtained from sources outside the NRG System. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 61.]** 6. Except as provided in this Consent Decree, NRG shall not sell or trade any NO_X Allowances allocated to the NRG System that would otherwise be available for sale or trade as a result of NRG's compliance with any of the NO_X emission limitations specified in this Consent Decree. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 62.]** 7. Provided that NRG is in compliance with all of the NO_X emission limitations specified in the Consent Decree, including both unit-specific and system-wide emissions rates and plant-wide and system-wide tonnage limitations, nothing in this Consent Decree shall preclude NRG from selling or transferring NO_X Allowances allocated to the NRG System that become available for sale or trade when, and only insofar as, both: (a) the total Ozone Season NO_X emissions from all Units within the NRG System are below System-Wide Ozone Season Tonnage Limitations for the applicable year, as specified in Paragraph 58; and (b) the annual NO_X emissions from all Units within the NRG System are below the System-Wide Annual Tonnage Limitations, as specified in Paragraph 57. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 63.]** 8. In no event shall the emission reductions required by this Decree be considered as credible contemporaneous emission decreases for the purpose of obtaining a netting credit under the Clean Air Act's Nonattainment NSR and PSD programs. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 71]** 9. In order to sell or transfer NO_X Allowances pursuant to Paragraph 63, NRG must also timely report the generation of such NO_X Allowances in accordance with Section IX (Periodic Reporting) of this Consent Decree. **[Reference: NRG Potomac River Consent Decree, Section IV,**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	paragraph 64.] 10. For purpose of this Subsection, the "surrender of allowances" means permanently surrendering NO_X Allowances from the accounts administered by Plaintiffs for all Units in the NRG System, so that such allowances can never be used to meet any compliance requirement of any person under the Clean Air Act, the Maryland and Virginia SIPs, or this Consent Decree. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 65.]** 11. For each calendar year beginning with calendar year 2004, NRG shall surrender to EPA, or transfer to a non-profit third party selected by NRG for surrender: (1) the number of Ozone Season NO_X allowances equal to the amount by which the Ozone Season NO_X allowances allocated to all NRG System Units for a particular ozone season are greater than the System-Wide Ozone Season Tonnage Limitations for NO_X established in Paragraph 58 of the Consent Decree for the same year; and (2) the number of "annual" (non-ozone season) NO_X allowances equal to the amount by which the "annual" NO_X allowances allocated to all NRG System Units for a particular non-ozone season are greater than the difference between the System-Wide Annual Tonnage Limitations for NO_X established in Paragraph 57 and the System Wide Ozone Season Tonnage Limitations for NO_X established in Paragraph 58 for that same year. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 66]** 12. If any NO_X Allowances are transferred directly to a non-profit third party, NRG shall include a description of such transfer in the next report submitted to Plaintiffs. Such report shall: (a) provide the identity of the non-profit third party recipient(s) of the NO_X Allowances and a listing of the serial numbers of the transferred NO_X Allowances; and (b) include a certification by the third-party recipient(s), stating that the recipient(s) will not sell, trade, or otherwise exchange any of the NO_X Allowances and will not use any of the Allowances to meet any obligation imposed by any environmental law. No later than the third periodic report due after the transfer of any NO_X Allowances, NRG shall include a statement that the third-party recipient(s) tendered the NO_X Allowances for permanent surrender to Plaintiffs in accordance with the provisions of Paragraph 68 within one (1) year after NRG transferred the NO_X Allowances to them. NRG shall not have complied with the NO_X Allowance surrender

Table IV – 1a – Potomac River Consent Decree	
	requirements of this Paragraph until all third-party recipient(s) shall have actually surrendered the transferred NO_X Allowances to Plaintiffs. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 67]** 13. For all NO_X Allowances surrendered to Plaintiffs, NRG or the non-profit third-party recipient(s) (as the case may be) shall first submit a NO_X Allowance transfer request form to EPA directing the transfer of such NO_X Allowances to the Plaintiffs' Enforcement Surrender Account or to any other Plaintiffs account that Plaintiffs may direct in writing. As part of submitting these transfer requests, NRG or the third-party recipient(s) shall irrevocably authorize the transfer of these NO_X Allowances and identify- by name of account and any applicable serial or other identification numbers or station names- the source and location of the NO_X Allowances being surrendered. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 68]** E. <u>Severance of the Morgantown and/or Dickerson Plants from the NRG System</u> 14. NRG shall comply with paragraphs 185,186,187,188,189,190, 191,192,193,194,195 of Section XIX. Severing the Morgantown Plant: Revised System-wide NO_X Emission Limitations, Section XX. Severing the Dickerson Plant: Revised System-wide NO_X Emission Limitations, XXI Severing the Morgantown and Dickerson Plants: Revised System-wide NO_X Emission Limitations, and Section XXII. Sales or Transfers of Ownership Interests. **[Reference: NRG Potomac River Consent Decree, Sections XIX, XX, XXI, and XXII]** 15. NRG shall comply with the reporting requirements of paragraph 138 and 139 of Section XVII Severance of the Morgantown and/or Dickerson Plants from the NRG System. **[Reference: NRG Potomac River Consent Decree, Section XVII, paragraphs 138 and 139]** F. <u>Monitoring, and Record Keeping and Reporting Requirements</u> 16. In determining Emission Rates for NO_X, NRG shall use CEMs in accordance with those reference methods specified in 40 CFR Part 75. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 69]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	17. NRG shall retain, and instruct its contractors and agents to preserve, all non-identical copies of all records and document (including records and documents in electronic form) now in its or its contractors' or agents' possession or control, and that directly relate to NRG's performance of its obligations under this Consent Decree until December 31, 2015. This record retention requirement shall apply regardless of any corporate document retention policy to the contrary. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 131]** 18. NRG shall submit a report to Plaintiffs containing a summary of the data recorded by each NO_X CEMs in the NRG System, expressed in lb/mmBtu, on a 30-day rolling average basis, in electronic format, within 30 days after the end of each calendar quarter and within 30 days after the end of each month of the Ozone Season, and shall make all data recorded available to the Plaintiffs upon request. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 70]** *Completed (19, 20, & 21)*. **Reference: NRG Potomac River Consent Decree, Section IV, paragraphs 88, 89 & 90]** 22. In addition to the progress reports required pursuant to this Section, NRG shall provide a written report to Plaintiffs of any violation of the requirements of this Consent Decree, including exceedances of any Unit-specific 30-Day Rolling Average Emission Rates, Unit-specific 30-Day Rolling Average Removal Efficiencies, any Unit-specific 12-Month Rolling Average Removal Efficiencies, System-Wide Annual Tonnage Limitations, System-Wide Ozone Season Tonnage Limitations, Potomac River Annual or Ozone Season Tonnage Limitations, or System-Wide Ozone Season Emission Rate, within ten (10) business days of when NRG knew or should have known of any such violation. In this report, NRG shall explain the cause or causes of the violation and all measures taken or to be taken by NRG to prevent such violations in the future. **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 91]** 23. Each NRG report shall be signed by NRG's Director, Environmental Safety and Health, NRG Mid-Atlantic, LLC, or in his or her absence, the President of NRG Mid-Atlantic, LLC, or higher ranking official, and shall contain the following certification:

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1a – Potomac River Consent Decree	
	"This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or the direction and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate, and complete. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States." **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 92]** 24. If any Allowances are surrendered to any non-profit third party, in accordance with this Consent Decree, the third party's certification shall be signed by a managing officer of the third party and shall contain the following language: "I certify under penalty of law that [name of third party] will not sell, trade, or otherwise exchange any of the [NO_X, SO_2, or Mercury] Allowances and will not use any of the Allowances to meet any obligation imposed by an environmental law. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States." **[Reference: NRG Potomac River Consent Decree, Section IV, paragraph 93]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1b – March 2008 Opacity Consent Decree	
1b.0	**Emissions Unit Number(s): F1 and F2: Boilers Cont'd** **March 2008 Opacity Consent Decree** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)
1b.1	**Applicable Requirements:** Control of Visible Emissions *Completed:* **Consent Decree Section V. Evaluation of Opacity Exceedances, paragraphs 7, 8, 9, 10.** **Compliance Assurance Monitoring** *Completed:* **Consent Decree Section VII. Implementation of Interim and Final CAM Plans, paragraphs 11, 12, 13, 14, 15, 16, 17, 18.** **Particulate Matter Stack Testing** *Completed:* **Consent Decree Section VIII. Particulate Matter Stack Testing, paragraphs 26, 27, 28. *See letter dated October 6, 2011 – Petition to stop 170-day stack testing.*** *Completed:* **Consent Decree Section X. Installation of Particulate Matter CEMS, paragraph 31.** Each PM CEMS shall be comprised of a continuous particle mass monitor or equivalent device measuring particulate matter concentration for Morgantown Units 1 and 2 in lbs/mm Btu on a 24-hour rolling average basis. NRG shall maintain, in an electronic database, the hourly average emission values recorded by all PM CEMS for five (5) years. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 32.]** NRG shall use reasonable efforts to keep each PM CEMS operating and producing data whenever a Unit served by the PM CEMS is operating. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 33.]** *Completed:* **Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 34.**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1b – March 2008 Opacity Consent Decree	
	NRG shall provide the Department with written notice of the date on which initial operation of each PM CEMS is commenced. No later than 90 days following initial operation of a PM CEMS, NRG shall submit to the Department for review and approval a proposed Quality/Assurance/Quality Control ("QA/QC") protocol for that PM CEMS, including a maintenance schedule, which shall be followed in calibrating and operating the PM CEMS. The protocol shall be developed in accordance with EPA Procedures 2 of Appendix F or 40 CFR Part 60 ("Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems Used at Stationary Sources"). NRG shall operate each PM CEMS in accordance with the approved protocol. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 35]** NRG shall submit quarterly PM CEMS reports to the Department that comply with COMAR 26.11.01.11E(2)(c)(i) through (vi). All data shall be reported in 24-hour rolling averages. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 36]** Not Applicable. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 37]** *Completed.* **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 38]** Unless otherwise required by State or federal law or regulation, upon initial operation of an FGD pollution control device on a Unit subject to this Consent Decree, NRG may discontinue use of opacity CEMs to monitor the opacity emissions from the stack serving such Unit, provided that: (a) emissions from such Unit do not bypass the FGD serving that Unit and FGD technology serving that Unit is in operation; (b) NRG has fully implemented an alternative plan for monitoring opacity levels and particulate matter emissions from the stack serving such Unit that has been approved by the Department; and (c) NRG has demonstrated to the satisfaction of the Department and the United States Environmental Protection Agency, in accordance with 40 CFR §75.14 and applicable EPA regulations, policy and guidelines, that condensed water is present in the flue gas stream from such Unit and would impede the accuracy of opacity measurements. **[Reference: Consent Decree Section VIII. Particulate Matter Stack Testing, paragraph 39]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1b – March 2008 Opacity Consent Decree	
	Morgantown Units 1 and 2 shall be subject to a particulate matter emission limitation of **0.100 lbs/mmBtu heat input**. Compliance with the particulate matter limitation shall be demonstrated by stack test performed in accordance with Paragraphs 26 and 27, and by PM CEMs data in accordance with Section X, except that violations of the particulate matter emission limitation recorded by PM CEMs data shall be subject to §2-611 of the Environmental Article (Plan for Compliance). Violations of the particulate matter standard demonstrated by stack testing are not subject to a Plan for Compliance pursuant to §2-611 of the Environment Article and shall be subject to all sanctions and remedies available to the Department. **[Reference: Consent Decree Section XI. Particulate Matter Limitation Applicable to Morgantown Units 1 and 2, paragraph 40]** Not Applicable. **[Reference: Consent Decree Section XI. Particulate Matter Limitation Applicable to Morgantown Units 1 and 2, paragraph 41 & 42]** <u>Control of Sulfur Emissions</u> NRG shall ensure that each train of coal scheduled for delivery to the Morgantown Plant for combustion in Units 1 and 2 is sampled for sulfur content prior to delivery. NRG shall not burn coal that will cause SO_2 emissions in excess of 3.5 lbs/mm Btu heat input. [**Reference: Consent Decree Section III. Coal Sampling, paragraph 5]** <u>Truck Washing Facility</u> NRG shall commence operation of a Truck Washing Facility designed to reduce fugitive particulate matter emissions at the Morgantown Plant no later than September 30, 2008. Each Truck Washing Facility shall be installed to wash the wheels, undercarriage, and sides of all trucks used to haul fly ash and bottom ash to off-site storage facilities. Each Truck Washing Facility shall consist of a steel basin with ramps on either end, or an array of nozzles that spray high velocity jets of water on the bottom and sides of trucks as they are driven through the device. Water shall be recirculated through a filtration tank. Accumulated ash solids in each filtration tank shall be removed periodically and transported off site to an appropriate ash storage facility in accordance with all applicable local, State and Federal laws and regulations. The truck washing operation may be discontinued when ambient temperatures drop, or are expected to drop, below 36 degrees Fahrenheit, or otherwise when potential freezing would cause or contribute to unsafe conditions. [**Reference: Consent Decree Section XII. Truck Washing Facilities, paragraph 43]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1b – March 2008 Opacity Consent Decree	
	Mist Eliminators NRG shall install and maintain a mist eliminator in each FGD/SO_2 absorber for Morgantown Units 1 and 2, as specified in each of NRG's separate applications for a CPCN to install FGD technology at the Plants. [**Reference: Consent Decree Section XIII. Mist Eliminators, paragraph 44] By 12/31/2009.** Reporting Requirements Beginning with the quarter that commences on January 1, 2008, NRG shall submit to the Department quarterly reports describing the status of NRG's compliance with the terms and conditions of the Consent Decree. Each quarterly report shall be due no later than 30 days following the end of the quarter, unless such date falls on a weekend or holiday, in which case the report shall be due on the next business day. The first quarterly report shall be due on April 30, 2008. **[Reference: Consent Decree Section XIV. Reporting, paragraph 45]** *Completed*. **[Reference: Consent Decree Section XIV. Reporting, paragraph 46]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV-1c		
ENHANCED MONITORING		
Electrostatic Precipitator (ESP) for UNIT 1 (Bypass Stack only)		
Applicable Requirement	**PM:** Emission limit: 0.100 pounds particulate matter per million Btu of heat input **Opacity**: 20 percent maximum	
	Indicator #1	Indicator #2
	Opacity at Stack	ESP Secondary Power
Measurement Approach	The stack continuous opacity monitor (COM) produces 1-minute average readings, which are then used to produce 6-minute averages and block 1-hour averages	The ESP total secondary power is calculated from voltmeters reading secondary voltage and ammeters reading secondary current. Block 1-hour averages are produced from 1-minute averages.
II. Indicator Range	The opacity indicator range is a block hourly average opacity of 17.0%. When the block hourly average opacity is over 19.0%, operators must look at the second CAM indicator, ESP total secondary power.	The total ESP secondary power indicator range is a block hourly average of 417 kW. Excursions below this indicator range trigger corrective actions and reporting requirements.
III. Performance Criteria		
1. Data Representativeness	The COM was installed on the stack per 40 CFR 60, Appendix B.	The voltmeters and ammeters are part of the ESP design and included in their instrumentation.
2. AQ/QC Practices and Criteria	QA/QC per 40 CFR 60, Appendix B	Voltmeters and ammeters and checked per standard PM schedule
3. Monitoring Frequency	Opacity is monitored continuously by the continuous opacity monitoring (COM) system.	Secondary power is monitored continuously by the plant information (Pi) system.
4. Record keeping	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.
5. (i) Reporting	Report the number, duration and cause of any excursion and the corrective action taken.	Report the number, duration and cause of any excursion and the corrective action taken.
(ii) Frequency	Quarterly	Quarterly

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV-1d		
ENHANCED MONITORING		
Electrostatic Precipitator (ESP) for UNIT 2 (Bypass Stack only)		
Applicable Requirement	**PM:** Emission limit: 0.100 pounds per million Btu of heat input 0.140 pounds per million Btu of heat input. (March 2008 Consent Decree limit supersedes) **Opacity**: 20 percent maximum	
I. Indicator	Indicator #1	Indicator #2
	Opacity at Stack	ESP Third Field Secondary Power
Measurement Approach	The stack continuous opacity monitor (COM) produces 1-minute average readings, which are then used to produce 6-minute averages and block 1-hour averages	The ESP third field secondary power is calculated from voltmeters reading secondary voltage and ammeters reading secondary current. Block 1-hour averages are produced from 1-minute averages.
II. Indicator Range	The opacity indicator range is a block hourly average opacity of 18%. When the block hourly average opacity is over 18%, operators must look at the second CAM plan indicator, ESP third field secondary power	The ESP third field secondary power indicator range is a block hourly average of 92 kW. Excursions below this indicator range trigger corrective actions and reporting requirements.
III. Performance Criteria		
1. Data Representativeness	The COM was installed on the stack per 40 CFR 60, Appendix B	The voltmeters and ammeters are part of the ESP design and included in their instrumentation.
2. AQ/QC Practices and Criteria	QA/QC per 40 CFR 60, Appendix B	Voltmeters and ammeters are checked per standard PM schedule.
3. Monitoring Frequency	Opacity is monitored continuously by the continuous opacity monitoring system (COM).	Secondary power is monitored continuously by the plant information (Pi) system.
4. Record keeping	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.	Maintain for a period of at least five years records of inspections and of corrective action taken in response to excursions.
5. (i) Reporting	Report the number, duration and cause of any excursion and the corrective action taken.	Report the number, duration and cause of any excursion and the corrective action taken.
(ii) Frequency	Quarterly	Quarterly

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – CPCN 9085: FGD System	
1e.0	**Emissions Unit Number(s): FGD System for F1 and F2** A wet flue gas desulfurization (FGD) system is installed on both Units 1 and 2. The FGD system controls acid gases (SO_2 & HCl) and Hg. The FGD system uses limestone slurry with in-situ forced oxidation, producing gypsum by-product. The FGD system consists of the following sub-systems: limestone unloading and storage facilities; limestone slurry preparation and feed; SO_2 absorption tower; gypsum dewatering and loading facilities and three (3) emergency diesel engines (two quench pump and one fire pump). **[CPCN: 9085]**
1e.1	**Applicable Standards/Limits:** **[Reference: CPCN 9085: II. Applicable Air Quality Regulations]** 10. The Morgantown facility is subject to all applicable, federally enforceable State air quality requirements including, but not limited to, the following regulations: a) **COMAR 26.11.01.10**–Requires NRG to install Continuous Opacity Monitoring (COM) systems to monitor opacity and Continuous Emissions Monitoring (CEM) systems (COMAR 26.11.01.11) to monitor SO_2, NO_X and either O_2 or CO_2 from each boiler, and to meet applicable CEM installation, certification, operating, monitoring, testing, and, malfunction requirements in 40 CFR Part 60, 40 CFR Part 75, and 40 CFR Part 51, Appendix 51, Appendix P, §3.3-3.8 or §3.9 as incorporated by reference. c) **COMAR 26.11.06.02C(1)-**Prohibits NRG from causing or permitting the discharge of emissions from any installation or building (i.e., confined, non-fuel-burning equipment sources) other than water in an uncombined form, which are greater than 20 percent opacity. d) **COMAR 26.11.06.03B(1)-**Prohibits NRG from discharging into the outdoor atmosphere from any confined source (i.e., the limestone, gypsum and other material storage silos) particulate matter in excess of 0.05 grains per dry standard cubic feet (gr/dscf)(115 mg/dscm). e) **COMAR 26.11.06.03C(1)-**Prohibits NRG from causing or permitting emissions from an unconfined (fugitive) source without taking reasonable precautions to prevent particulate matter from becoming airborne, f) **COMAR 26.11.06.03D**-Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For the unloading, loading and transfer of

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – CPCN 9085: FGD System	
	the materials included at the Morgantown APC Project (limestone, gypsum, and sorbent to control sulfuric acid mist emissions), these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer: i) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land. ii) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts. iii) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations. iv) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution. Alternate means may be employed to achieve the same results as would covering the vehicles. v) The paving of roadways and their maintenance in clean condition. vi) The prompt removal from paved streets of earth or other material which has been transported there by trucks or earth moving equipment or erosion by water. g) **COMAR 26.11.06.12**-Prohibits NRG from constructing, modifying or operating or causing to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source as defined in COMAR 26.11.01.01C, which results in violation of provisions of 40 CFR Part 60. h) **COMAR 26.11.09.03**-When determining compliance with applicable particulate matter emission standards from boiler stacks (concentration requirement expressed as grains per standard cubic foot or milligrams per cubic meter of dry exhaust gas), NRG shall correct to 50 percent excess air. In addition, when determining compliance with a mass-based particulate matter emission limit expressed as pounds per million Btu (lb/MMBtu), NRG shall use the procedures for determining particulate matter emission rates in 40 CFR Part 60 Appendix A, Method 19. i) **COMAR 26.11.09.05A(1)-**Prohibits NRG from discharging emissions from fuel burning equipment, other than water in an uncombined form, which is greater than 20 percent opacity. Exceptions: limitations do not apply during times of load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment which are not greater than 40 percent opacity and do not occur for more than six consecutive minutes in any 60 minute period. j) **COMAR 26.11.09.05E(2) and E(3)**-Prohibits the discharge of emissions from the quench pump engines, when operating at idle, greater than 10 percent opacity, and when in operating mode, greater than 40 percent opacity. Exceptions: (i) limitations when operating at idle do not apply for a

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – CPCN 9085: FGD System	
	period of two consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system; (ii) limitations when operating at idle do not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods: engines that are idled continuously when not in service: 30 minutes, and all other engines: 15 minutes; (iii) limitations when in idle and operating modes do not apply while maintenance, repair, or testing is being performed by qualified mechanics. k) **COMAR 26.11.009.06A(1)**-Prohibits NRG from causing or permitting particulate matter emissions from Morgantown Units 1 and 2 in excess of 0.14 lb/MMBtu. (Figure 1 of COMAR 26.11.09.06A). [*Compliance with the March 6, 2008 Consent Decree PM Emission limit 0.100 mmBtu/hr indicates compliance with COMAR 26.11.09.06A]*] l) **COMAR 26.11.09.07A(1)(a)**-Prohibits NRG from burning coal that would result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu actual heat input. m) **COMAR 26.11.09.07A(1)(c)-**Prohibits NRG from burning distillate fuel oil in the quench pumps with a sulfur content greater than 0.3 percent. n) **COMAR 26.11.27**-Requires NRG to comply with the applicable emissions limitations for NO_X, SO_2 and mercury as well as the monitoring and record keeping requirements contained in COMAR 26.11.27. **[Reference: CPCN 9085: III. New Source Performance Standard (NSPS) Requirements]** 12. The equipment at Morgantown identified in [CPCN 9085] Table 1a, Table 1b and Table 1c are subject to NSPS 40 CFR Part 60, Subpart OOO-Standards of Performance for Non-metallic Mineral Processing Plants (40 CFR §60.670) and the associated notification and testing requirements of 40 CFR §60.7, §60.8 and §60.11 whose requirements include, but are not limited to the following: a) NRG shall not cause to be discharged into the atmosphere gases from any transfer point along the belt conveyor systems, or any other stack, particulate matter in concentrations greater than 0.022 gr/dscf or opacity that is greater than seven percent. b) NRG shall not cause to be discharged into the atmosphere from any transfer point along the belt conveyor system or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity. If the transfer point is totally enclosed in a building or enclosure, then there are no fugitive emissions allowed from the building unless they are directed through a vent, which is limited by Condition 12(a). c) NRG shall not cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – CPCN 9085: FGD System	
	exhibit greater than 15 percent opacity d) NRG shall not cause to be discharged into the atmosphere from any baghouse that controls emissions from only an individual enclosed storage bin, stack emissions which exhibit greater than seven percent opacity. 13. Each of the three diesel engine-driven (two quench pumps and one fire pump) are subject to New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR §60.4205) and the associated fuel, monitoring, compliance, testing, notification, reporting and record keeping requirements (40 CFR §60.4200 et seq.), and related applicable provisions of 40 CFR §60.7 and §60.8. **[Reference: CPCN 9085: IV. Operational Restrictions and Limitations]** 14. NRG shall: a) Install, maintain and operate the new limestone, gypsum, sulfuric acid mist (SAM) control sorbent, and hydrated lime unloading, storage, transfer and distribution equipment and systems with associated particulate matter control methods listed in [CPCN 9085] Table 1a-c and Table 2 in accordance with original design criteria, vendor recommendations and best management practices, and in such a manner as to ensure full and continuous compliance with all applicable regulations. b) Update Morgantown's Best Management Practices (BMP) Plan, as required by the facility's Part 70 Operating Permit (Permit No. 24-017-0014), to include the new limestone, gypsum, SAM control sorbent, and hydrated lime transfer storage and distribution equipment. The Plan shall document what reasonable precautions will be used to prevent particulate matter from this equipment from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. *Completed.* c) At least 60 days prior to replacing, elimination or in any manner changing any of the particulate control systems listed in [CPCN 9085] Table 1a-c and Table 2, NRG shall submit a request to ARMA to amend the facility's BMP Plan. The request shall specify the proposed change(s) in emissions control systems; shall demonstrate that the change(s) will not result in any increases in any pollutants; and update [CPCN 9085] Table 1a-c and Table 2 of these conditions. NRG shall be authorized to make the changes proposed in the written request unless ARMA denies the request within 30 days of the receipt of the request.

Table IV – 1e – CPCN 9085: FGD System	
	[Reference: CPCN 9085: Miscellaneous] 86. Sulfuric acid mist emissions from Units 1 and 2 combined shall not exceed 1,194 tons per year (tpy) in any rolling 12-month cumulative period. a. Mirant shall maintain records of monthly and 12-month rolling total emissions of SAM from Units 1 and 2 and submit to ARMA semi-annually by July 30 for the period January 1 through June 30, and by January 30 for the period July 1 through 31 December; b. At least 30 days prior to the anticipated date of start-up of the APC systems, Mirant shall provide MDE and the PSC with a plan outlining a methodology for determining SAM emissions from Units 1 and 2. Upon approval from ARMA, Mirant shall implement the SAM emissions estimating protocol.
1e.2	**Testing Requirements:** **[Reference: CPCN 9085: V. Testing]** 17. In accordance with COMAR 26.11.01.04A, NRG may be required by ARMA to conduct additional stack tests to determine compliance with COMAR Title 26, Subtitle 11. This testing will be done at a reasonable time.
1e.3	**Monitoring Requirements:** **[Reference: CPCN 9085: VI. Monitoring]** 18. NRG shall operate CEM systems for SO_2, NO_X and CO_2 or O_2, under 40 CFR part 75 and COM systems for Morgantown Unit 1 and 2. The Permittee shall calculate the Unit's SAM emissions based on the empirical SAM formation relationship found in Estimating Total Sulfuric Acid Emissions from Stationary Power Plants: Revision 3 (Southern Company 2005), the SAM emission stack tests results required by the CPCN 9085 Condition 87 (40 CFR 60, Appendix A, Method 8), the actual unit heat input and the actual fuel sulfur content. The Permittee shall use the following formula using the SAM stack test results adjusted by the average monthly fuel sulfur content and monthly heat input to calculate the monthly and 12 month rolling SAM emissions:

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – CPCN 9085: FGD System	
	Monthly SAM Emissions (tons/month) = SAM Stack test Rate (lbs/mmBtu) x Coal Sulfur Adjustment Factor (average Monthly Coal Sulfur Content/Stack Test Coal Sulfur Content)/2000 lbs/ton **[Reference: Letter dated Dec 10, 2009 to MDE from Mirant Mid Atlantic LLC: Re: CPCN Case 9085, Condition 86b. – Method to Determine Sulfur Acid Mist Emissions from Morgantown Units 1 and 2]** See State Only requirements of COMAR 26.11.09.05C.
1e.4	**Record Keeping Requirements:** **[Reference: CPCN 9085: VII. Recordkeeping and Reporting]** 24. All records and logs required by this CPCN shall be maintained at the facility for at least five years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of ARMA.
1e.5	**Reporting Requirements:** **[Reference: CPCN 9085: VII. Recordkeeping and Reporting]** 20. NRG shall submit to ARMA and US EPA written reports of the results of all performance test conducted to demonstrate compliance with the standards set forth in applicable NSPS within 60 days of completion of the tests. ***(Completed)*** 21. Final results of the performance tests required by this CPCN must be submitted to ARMA within 60 days after completion of the test. Analytical data shall be submitted to ARMA directly from the emission testing company. ***(Completed)*** 25. All air quality notification and reports required by this CPCN shall be submitted to: Administrator, Compliance Program Air and Radiation Management Administration 1800 Washington Boulevard Baltimore, Maryland 21230

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1e – CPCN 9085: FGD System	
	26. All notification and reports required by 40 CFR 60 Subpart OOO and Subpart IIII, unless specified otherwise, shall be submitted to: Regional Administrator, US EPA Region III 1650 Arch Street Philadelphia, Pennsylvania 19103-2029

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 1f – MACT Subpart UUUUU	
1f.0	**Emissions Unit Number(s): F1 and F2 Boilers Cont'd** **F1**: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**) **F2**: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)
1f.1	**Applicable Standards/Limits:** Control of HAPs Emissions **40 CFR Part 63, Subpart UUUUU—National Emission Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units.** **§63.9980** - What is the purpose of this subpart? This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from coal- and oil-fired electric utility steam generating units (EGUs) as defined in §63.10042 of this subpart. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations. *Electric utility steam generating unit (EGU) means a fossil fuel-fired combustion unit of more than 25 megawatts electric (MWe) that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 MWe output to any utility power distribution system for sale is considered an electric utility steam generating unit.* **§63.9981** - Am I subject to this subpart? "You are subject to this subpart if you own or operate a **coal-fired** EGU or an oil-fired EGU as defined in §63.10042 of this subpart."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	§63.9984 - <u>When do I have to comply with this subpart?</u> "(b) If you have **an existing** EGU, you must comply with this subpart no later than **April 16, 2015**." "(c) You must meet the notification requirements in §63.10030 according to the schedule in §63.10030 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart." "(f) You must demonstrate that compliance has been achieved, by conducting the required performance tests and other activities, no later than 180 days after the applicable date in paragraph (a), (b), (c), (d), or (e) of this section." **§63.9991** - <u>What emission limitations, work practice standards, and operating limits must I meet?</u> "(a) You must meet the requirements in paragraphs (a)(1) and (2) of this section. You must meet these requirements at all times. (1) You must meet each emission limit and work practice standard in Table 1 through 3 to this subpart that applies to your EGU, for each EGU at your source, except as provided under §63.10009. (2) *Not Applicable*. (b) As provided in §63.6(g), the Administrator may approve use of an alternative to the work practice standards in this section. (c) You may use the alternate SO_2 limit in Tables 1 and **2** to this subpart only if your EGU: (1) Has a system using wet or dry flue gas desulfurization technology and SO_2 continuous emissions monitoring system (CEMS) installed on the unit; and (2) At all times, you operate the wet or dry flue gas desulfurization technology installed on the unit consistent with §63.10000(b)."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU

Table 2 to Subpart UUUUU of Part 63—Emission Limits for Existing EGUs

As stated in §63.9991, you must comply with the following applicable emission limits:[1]

If your EGU is in this subcategory...	For the following pollutants ...	You must meet the following emission limits and work practice standards ...	Using these requirements, as appropriate (e.g., specified sampling volume or test run duration) and limitations with the test methods in Table 5...
1. Coal-fired unit not low rank virgin coal	a. Filterable particulate matter (**PM**)	3.0E-2 lb/MMBtu or 3.0E-1 lb/MWh.[2]	Collect a minimum of 1 dscm per run. **Please Note: PM CEMs will be used.**
	b. Hydrogen chloride (**HCl**)	2.0E-3 lb/MMBtu or 2.0E-2 lb/MWh.	For Method 26A, collect a minimum of 0.75 dscm per run; for Method 26, collect a minimum of 120 liters per run.
			For ASTM D6348-03[3] or Method 320, sample for a minimum of 1 hour.
	OR		
	Sulfur dioxide (**SO_2**)[4]	2.0E-1 lb/MMBtu or 1.5E0 lb/MWh.	SO_2 CEMS. **Please Note: SO_2 will be used as a surrogate for HCl pursuant to §63.10000(c1)(v).**
	c. Mercury (**Hg**)	1.2E0 lb/TBtu or 1.3E-2 lb/GWh	LEE Testing for 30 days with 10 days maximum per Method 30B run or **Hg CEMS** or sorbent trap monitoring system only.

[1] For LEE emissions testing for total PM, total HAP metals, individual HAP metals, HCl, and HF, the required minimum sampling volume must be increased nominally by a factor of two.
[2] Gross electric output.
[3] Incorporated by reference, see §63.14.
[4] You may not use the alternate SO_2 limit if your EGU does not have some form of FGD system and SO_2 CEMS installed.

General Compliance Requirements

§63.10000 - What are my general requirements for complying with this subpart?

"(a) You must be in compliance with the emission limits and operating limits in this subpart. These limits apply to you at all times except during periods of startup and shutdown; however, for **coal-fired**, liquid oil-fired, or solid oil-derived fuel-fired EGUs, you are required to meet the work practice requirements in Table 3 to this subpart during periods of startup or shutdown.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the EPA Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source." "(c)(1) For **coal-fired** units, IGCC units, and solid oil-derived fuel-fired units, initial performance testing is required for all pollutants, to demonstrate compliance with the applicable emission limits. (i) *Not Applicable.* (ii) *Not Applicable.* (iii) *Not Applicable*. (iv) If your **coal-fired** or solid oil derived fuel-fired EGU or IGCC EGU does not qualify as a LEE for total non-mercury HAP metals, individual non-mercury HAP metals, or filterable particulate matter (PM), you must demonstrate compliance through an initial performance test and you must monitor continuous performance through either use of a particulate matter continuous parametric monitoring system (PM CPMS), a **PM CEMS**, or, for an existing EGU, compliance performance testing repeated quarterly. (v) If your **coal-fired** or solid oil-derived fuel-fired EGU does not qualify as a LEE for hydrogen chloride (HCl), you may demonstrate initial and continuous compliance through use of an HCl CEMS, installed and operated in accordance with Appendix B to this subpart. As an alternative to HCl CEMS, you may demonstrate initial and continuous compliance by conducting an initial and periodic quarterly performance stack test for HCl. **If your EGU uses wet or dry flue gas desulfurization technology (this includes limestone injection into a fluidized bed combustion unit), you may apply a second alternative to HCl CEMS by installing and operating a sulfur dioxide (SO_2) CEMS installed and operated in accordance with part 75 of this chapter to demonstrate compliance with the applicable SO_2 emissions limit.** (vi) If your **coal-fired** or solid oil-derived fuel-fired EGU does not qualify as a LEE for Hg, you must demonstrate initial and continuous compliance through use of **a Hg CEMS** or a sorbent trap monitoring system, in accordance with appendix A to this subpart. (A) *Not Applicable*. (B) *Not Applicable*. "(e) As part of your demonstration of continuous compliance, you must perform periodic tune-ups of your EGU(s), according to §63.10021(e)."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	"(f) You are subject to the requirements of this subpart for at least 6 months following the last date you met the definition of an EGU subject to this subpart (e.g., 6 months after a cogeneration unit provided more than one third of its potential electrical output capacity and more than 25 megawatts electrical output to any power distribution system for sale). You may opt to remain subject to the provisions of this subpart beyond 6 months after the last date you met the definition of an EGU subject to this subpart, unless you are a solid waste incineration unit subject to standards under CAA section 129 (e.g., 40 CFR Part 60, Subpart CCCC (New Source Performance Standards (NSPS) for Commercial and Industrial Solid Waste Incineration Units, or Subpart DDDD (Emissions Guidelines (EG) for Existing Commercial and Industrial Solid Waste Incineration Units). Notwithstanding the provisions of this subpart, an EGU that starts combusting solid waste is immediately subject to standards under CAA section 129 and the EGU remains subject to those standards until the EGU no longer meets the definition of a solid waste incineration unit consistent with the provisions of the applicable CAA section 129 standards." "(j) All air pollution control equipment necessary for compliance with any newly applicable emissions limits which apply as a result of the cessation or commencement or recommencement of operations that cause your EGU to meet the definition of an EGU subject to this subpart must be installed and operational as of the date your source ceases to be or becomes subject to this subpart. (k) All monitoring systems necessary for compliance with any newly applicable monitoring requirements which apply as a result of the cessation or commencement or recommencement of operations that cause your EGU to meet the definition of an EGU subject to this subpart must be installed and operational as of the date your source ceases to be or becomes subject to this subpart. All calibration and drift checks must be performed as of the date your source ceases to be or becomes subject to this subpart. You must also comply with provisions of §§63.10010, 63.10020, and 63.10021 of this subpart. Relative accuracy tests must be performed as of the performance test deadline for PM CEMS, if applicable. Relative accuracy testing for other CEMS need not be repeated if that testing was previously performed consistent with CAA section 112 monitoring requirements or monitoring requirements under this subpart. (l) On or before the date an EGU is subject to this subpart, you must install, certify, operate, maintain, and quality assure each monitoring system necessary for demonstrating compliance with the work practice standards for PM or non-mercury HAP metals during startup periods and

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU

shutdown periods. You must collect, record, report, and maintain data obtained from these monitoring systems during startup periods and shutdown periods."

Table 3 to Subpart UUUUU of Part 63—Work Practice Standards
As stated in §§63.9991, you must comply with the following applicable work practice standards:

If your EGU is...	You must meet the following...
1. An **existing** EGU	Conduct a tune-up of the EGU burner and combustion controls at least each 36 calendar months, or each 48 calendar months if neural network combustion optimization software is employed, as specified in §63.10021(e).
3. A **coal-fired**, liquid oil-fired (excluding limited-use liquid oil-fired subcategory units), or solid oil-derived fuel-fired EGU **during startup**	You have the option of complying using either of the following work practice standards. (1) If you choose to comply using paragraph (1) of the definition of "startup" in §63.10042, you must operate all CMS during startup. Startup means either the first-ever firing of fuel in a boiler for the purpose of producing electricity, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on site use). For startup of a unit, you must use clean fuels as defined in §63.10042 for ignition. Once you convert to firing coal, residual oil, or solid oil-derived fuel, you must engage all of the applicable control technologies except dry scrubber and SCR. You must start your dry scrubber and SCR systems, if present, appropriately to comply with relevant standards applicable during normal operation. You must comply with all applicable emissions limits at all times except for periods that meet the applicable definitions of startup and shutdown in this subpart. You must keep records during startup periods. You must provide reports concerning activities and startup periods, as specified in §63.10011(g) and §63.10021(h) and (i).
	(2) If you choose to comply using paragraph (2) of the definition of "startup" in §63.10042, you must operate all CMS during startup. You must also collect appropriate data, and you must calculate the pollutant emission rate for each hour of startup.
	For startup of an EGU, you must use one or a combination of the clean fuels defined in §63.10042 to the maximum extent possible throughout the startup period. You must have sufficient clean fuel capacity to engage and operate your PM control device within one hour of adding coal, residual oil, or solid oil-derived fuel to the unit. You must meet the startup period work practice requirements as identified in

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU

	§63.10020(e).
	Once you start firing coal, residual oil, or solid oil-derived fuel, you must vent emissions to the main stack(s). You must comply with the applicable emission limits within 4 hours of start of electricity generation. You must engage and operate your particulate matter control(s) within 1 hour of first firing of coal, residual oil, or solid oil-derived fuel.
	You must start all other applicable control devices as expeditiously as possible, considering safety and manufacturer/supplier recommendations, but, in any case, when necessary to comply with other standards made applicable to the EGU by a permit limit or a rule other than this Subpart that require operation of the control devices.
	You must collect monitoring data during startup periods, as specified in §63.10020(a) and (e). You must keep records during startup periods, as provided in §§63.10032 and 63.10021(h). Any fraction of an hour in which startup occurs constitutes a full hour of startup. You must provide reports concerning activities and startup periods, as specified in §§63.10011(g), 63.10021(i), and 63.10031.
4. A **coal-fired**, liquid oil-fired (excluding limited-use liquid oil-fired subcategory units), or solid oil-derived fuel-fired EGU **during shutdown**	You must operate all CMS during shutdown. You must also collect appropriate data, and you must calculate the pollutant emission rate for each hour of shutdown. While firing coal, residual oil, or solid oil-derived fuel during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices and continue to operate those control devices after the cessation of coal, residual oil, or solid oil-derived fuel being fed into the EGU and for as long as possible thereafter considering operational and safety concerns. In any case, you must operate your controls when necessary to comply with other standards made applicable to the EGU by a permit limit or a rule other than this Subpart and that require operation of the control devices.
	If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the clean fuels defined in §63.10042 and must be used to the maximum extent possible.
	You must comply with all applicable emission limits at all times except during startup periods and shutdown periods at which time you must meet this work practice. You must collect monitoring data during shutdown periods, as specified in §63.10020(a). You must keep records during shutdown periods, as provided in §§63.10032 and 63.10021(h). Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown. You must provide reports concerning

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU		
		activities and shutdown periods, as specified in §§63.10011(g), 63.10021(i), and 63.10031.
1f.2	**Testing Requirements:** Control of HAPs Emissions **Testing and Initial Compliance Requirements** **§63.10005** - What are my initial compliance requirements and by what date must I conduct them? (a) *General requirements.* For each of your affected EGUs, you must demonstrate initial compliance with each applicable emissions limit in Table 1 or **2** of this subpart through performance testing. Where two emissions limits are specified for a particular pollutant (e.g., a heat input-based limit in lb/MMBtu and an electrical output-based limit in lb/MWh), you may demonstrate compliance with either emission limit. For a particular compliance demonstration, you may be required to conduct one or more of the following activities in conjunction with performance testing: collection of hourly electrical load data (megawatts); establishment of operating limits according to §63.10011 and Tables 4 and 7 to this subpart; and CMS performance evaluations. In all cases, you must demonstrate initial compliance no later than the applicable date in paragraph (f) of this section for tune-up work practices for existing EGUs, in §63.9984 for other requirements for **existing** EGUs, and in paragraph (g) of this section for all requirements for new EGUs. (1) To demonstrate initial compliance with an applicable emissions limit in Table 1 or **2** to this subpart using stack testing, the initial performance test generally consists of three runs at specified process operating conditions using approved methods. If you are required to establish operating limits (see paragraph (d) of this section and Table 4 to this subpart), you must collect all applicable parametric data during the performance test period. Also, if you choose to comply with an electrical output-based emission limit, you must collect hourly electrical load data during the test period. (2) To demonstrate initial compliance using either a CMS that measures HAP concentrations directly (*i.e.,* an **Hg**, HCl, or HF **CEMS**, or a sorbent trap monitoring system) or an **SO_2 or PM CEMS**, the initial performance test consists of 30- (or, if emissions averaging for Hg is used, 90-) boiler operating days of data collected by the initial compliance demonstration date specified in §63.9984(f) with the certified monitoring system. Pollutant emission rates measured during startup periods and shutdown period (as defined in §63.10042) are not to be included in the compliance demonstration, except as otherwise provided in §63.10000(c)(1)(vi)(B) and paragraph (a)(2)(iii) of this section.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(i) The 30- (or, if applicable, 90-) boiler operating day CMS performance test must demonstrate compliance with the applicable Hg, HCl, HF, PM, or SO_2 emissions limit in Table 1 or **2** to this subpart. (ii) You must collect hourly data from auxiliary monitoring systems (i.e., stack gas flow rate, CO_2, O_2, or moisture, as applicable) during the performance test period, in order to convert the pollutant concentrations to units of the standard. If you choose to comply with an electrical output-based emission limit, you must also collect hourly electrical load data during the performance test period. (iii) For a group of affected units that are in the same subcategory, are subject to the same emission standards, and share a common stack, if you elect to demonstrate compliance by monitoring emissions at the common stack, startup and shutdown emissions (if any) that occur during the 30-(or, if applicable, 90-) boiler operating day performance test must either be excluded from or included in the compliance demonstration as follows: (A) If one of the units that shares the stack either starts up or shuts down at a time when none of the other units is operating, you must exclude all pollutant emission rates measured during the startup or shutdown period, unless you are using a sorbent trap monitoring system to measure Hg emissions and have elected to include startup and shutdown emissions in the compliance demonstrations; (B) If all units that are currently operating are in the startup or shutdown mode, you must exclude all pollutant emission rates measured during the startup or shutdown period, unless you are using a sorbent trap monitoring system to measure Hg emissions and have elected to include startup and shutdown emissions in the compliance demonstrations; or (C) If any unit starts up or shuts down at a time when another unit is operating, and the other unit is not in the startup or shutdown mode, you must include all pollutant emission rates measured during the startup or shutdown period in the compliance demonstrations. (b) *Performance testing requirements.* If you choose to use performance testing to demonstrate initial compliance with the applicable emissions limits in Tables 1 and **2** to this subpart for your EGUs, you must conduct the tests according to §63.10007 and Table 5 to this subpart. For the purposes of the initial compliance demonstration, you may use test data and results from a performance test conducted prior to the date on which compliance is required as specified in §63.9984, provided that the following conditions are fully met: (1) For a performance test based on stack test data, the test was conducted no more than 12 calendar months prior to the date on which compliance is required as specified in §63.9984;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(2) For a performance test based on data from a certified CEMS or sorbent trap monitoring system, the test consists of all valid CMS data recorded in the 30 boiler operating days immediately preceding that date; (3) The performance test was conducted in accordance with all applicable requirements in §63.10007 and Table 5 to this subpart; (4) A record of all parameters needed to convert pollutant concentrations to units of the emission standard (e.g., stack flow rate, diluent gas concentrations, hourly electrical loads) is available for the entire performance test period; and (5) For each performance test based on stack test data, you certify, and keep documentation demonstrating, that the EGU configuration, control devices, and fuel(s) have remained consistent with conditions since the prior performance test was conducted. (c) *Not Applicable*. (d) *CMS requirements.* If, for a particular emission or operating limit, you are required to (or elect to) demonstrate initial compliance using a continuous monitoring system, the CMS must pass a performance evaluation prior to the initial compliance demonstration. If a CMS has been previously certified under another state or federal program and is continuing to meet the on-going quality-assurance (QA) requirements of that program, then, provided that the certification and QA provisions of that program meet the applicable requirements of §§63.10010(b) through (h), an additional performance evaluation of the CMS is not required under this subpart. (1) For an affected **coal-fired**, solid oil-derived fuel-fired, or liquid oil-fired EGU, you may demonstrate initial compliance with the applicable SO_2 , HCl, or HF emissions limit in Table 1 or **2** to this subpart through use of an SO_2 , HCl, or HF CEMS installed and operated in accordance with part 75 of this chapter or Appendix B to this subpart, as applicable. You may also demonstrate compliance with a filterable PM emission limit in Table 1 or **2** to this subpart through use of a **PM CEMS** installed, certified, and operated in accordance with §63.10010(i). Initial compliance is achieved if the arithmetic average of 30-boiler operating days of quality-assured CEMS data, expressed in units of the standard (see §63.10007(e)), meets the applicable SO_2, PM, HCl, or HF emissions limit in Table 1 or 2 to this subpart. Use Equation 19-19 of Method 19 in appendix A-7 to part 60 of this chapter to calculate the 30-boiler operating day average emissions rate. (NOTE: For this calculation, the term E_{hj} in Equation 19-19 must be in the same units of measure as the applicable HCl or HF emission limit in Table 1 or 2 to this subpart). (2) *Not Applicable*.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(3) For affected EGUs that are either required to or elect to demonstrate initial compliance with the applicable Hg emission limit in Table 1 or **2** of this subpart using **Hg CEMS** or sorbent trap monitoring systems, initial compliance must be demonstrated no later than the applicable date specified in §63.9984(f) for **existing** EGUs and in paragraph (g) of this section for new EGUs. Initial compliance is achieved if the arithmetic average of 30-boiler operating days of quality-assured CEMS (or sorbent trap monitoring system) data, expressed in units of the standard (see section 6.2 of appendix A to this subpart), meets the applicable Hg emission limit in Table 1 or 2 to this subpart." "(e) *Tune-ups.* All affected EGUs are subject to the work practice standards in Table 3 of this subpart. As part of your initial compliance demonstration, you must conduct a performance tune-up of your EGU according to §63.10021(e)." "(f) For existing affected sources a tune-up may occur prior to April 16, 2012, so that existing sources without neural networks have up to 42 calendar months (3 years from promulgation plus 180 days) or, in the case of units employing neural network combustion controls, up to 54 calendar months (48 months from promulgation plus 180 days) after the date that is specified for your source in §63.9984 and according to the applicable provisions in §63.7(a)(2) as cited in Table 9 to this subpart to demonstrate compliance with this requirement. If a tune-up occurs prior to such date, the source must maintain adequate records to show that the tune-up met the requirements of this standard." (h) *Not Applicable*. "(j) Startup and shutdown for coal-fired or solid oil derived-fired units. You must follow the requirements given in Table 3 to this subpart. (k) You must submit a Notification of Compliance Status summarizing the results of your initial compliance demonstration, as provided in §63.10030." **§63.10006** - When must I conduct subsequent performance tests or tune-ups? "(a) For liquid oil-fired, solid oil-derived fuel-fired and **coal-fired** EGUs and IGCC units using PM CPMS to monitor continuous performance with an applicable emission limit as provided for under §63.10000(c), you must conduct all applicable performance tests according to Table 5 to this subpart and §63.10007 at least every year." "(c) Except where paragraphs (a) or (b) of this section apply, or where you install, certify, and operate a **PM CEMS** to demonstrate compliance with a filterable PM emissions limit, for liquid oil-, solid oil-derived fuel-, **coal-fired** and IGCC EGUs, you must conduct all applicable periodic emissions tests

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU

for filterable PM, individual, or total HAP metals emissions according to Table 5 to this subpart, §63.10007, and §63.10000(c), except as otherwise provided in §63.10021(d)(1)."

"(f) Unless you follow the requirements listed in paragraphs (g) and (h) of this section, performance tests required at least every 3 calendar years must be completed within 35 to 37 calendar months after the previous performance test; performance tests required at least every year must be completed within 11 to 13 calendar months after the previous performance test; and performance tests required at least quarterly must be completed within 80 to 100 calendar days after the previous performance test, except as otherwise provided in §63.10021(d)(1)."

"(j) You must report the results of performance tests and performance tune-ups within 60 days after the completion of the performance tests and performance tune-ups. The reports for all subsequent performance tests must include all applicable information required in §63.10031."

Table 5 to Subpart UUUUU of Part 63—Performance Testing Requirements

As stated in §63.10007, you must comply with the following requirements for performance testing for **existing**, new or reconstructed affected sources:[1]

To conduct a performance test for the following pollutant...	Using...	You must perform the following activities, as applicable to your input- or output-based emission limit...	Using[2]...
1. Filterable Particulate matter (**PM**)	**PM CEMS**	a. Install, certify, operate, and maintain the PM CEMS	Performance Specification 11 at Appendix B to part 60 of this chapter and Procedure 2 at Appendix F to Part 60 of this chapter.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and §§63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see §63.10007(e)).
3. Hydrogen chloride (**HCl**) and hydrogen fluoride	HCl and/or HF CEMS	a. Install, certify, operate, and maintain the HCl or HF CEMS	Appendix B of this subpart.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU

(**HF**)			
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and §§63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see §63.10007(e)).
	Please Note: SO_2 will be used as a surrogate for HCl pursuant to §63.10000(c1)(v). See #5 SO_2 CEMS		
4. Mercury **(Hg)**	**Hg CEMS**	a. Install, certify, operate, and maintain the CEMS	Sections 3.2.1 and 5.1 of Appendix A of this subpart.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and §§63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/TBtu or lb/GWh emissions rates	Section 6 of Appendix A to this subpart.
5. Sulfur dioxide (**SO_2**)	**SO_2CEMS**	a. Install, certify, operate, and maintain the CEMS	Part 75 of this chapter and §§63.10010(a) and (f).
		b. Install, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and §§63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see §63.10007(e)).

[1]Regarding emissions data collected during periods of startup or shutdown, see §§63.10020(b) and (c) and §63.10021(h).
[2]See Tables 1 and 2 to this subpart for required sample volumes and/or sampling run times.
[3]Incorporated by reference, see §63.14.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	[4]When using ASTM D6348-03, the following conditions must be met: (1) The test plan preparation and implementation in the Annexes to ASTM D6348-03, Sections A1 through A8 are mandatory; (2) For ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent (%)R must be determined for each target analyte (see Equation A5.5); (3) For the ASTM D6348-03 test data to be acceptable for a target analyte, %R must be 70% ≤R ≤130%; and (4) The %R value for each compound must be reported in the test report and all field measurements corrected with the calculated %R value for that compound using the following equation: $Reported\ Result = \frac{(Measured\ Concentration\ in\ Stack)}{\%R} x\ 100$ **§63.10007** - <u>What methods and other procedures must I use for the performance tests?</u> "(a) Except as otherwise provided in this section, you must conduct all required performance tests according to §63.7(d), (e), (f), and (h). You must also develop a site-specific test plan according to the requirements in §63.7(c). (1) If you use **CEMS** (**Hg**, HCl, **SO_2**, or other) to determine compliance with a 30- (or, if applicable, 90-) boiler operating day rolling average emission limit, you must collect quality- assured CEMS data for all unit operating conditions, including startup and shutdown (see §63.10011(g) and Table 3 to this subpart), except as otherwise provided in §63.10020(b). Emission rates determined during startup periods and shutdown periods (as defined in §63.10042) are not to be included in the compliance determinations, except as otherwise provided in §§63.10000(c)(1)(vi)(B) and 63.10005(a)(2)(iii). (2) If you conduct performance testing with test methods in lieu of continuous monitoring, operate the unit at maximum normal operating load conditions during each periodic (e.g., quarterly) performance test. Maximum normal operating load will be generally between 90 and 110 percent of design capacity but should be representative of site specific normal operations during each test run. (3) For establishing operating limits with particulate matter continuous parametric monitoring system (PM CPMS) to demonstrate compliance with a PM or non Hg metals emissions limit, operate the unit at maximum normal operating load conditions during the performance test period. Maximum normal operating load will be generally between 90 and 110 percent of design capacity but should be representative of site specific normal operations during each test run. (b) You must conduct each performance test (including traditional 3-run stack tests, 30-boiler operating day tests based on CEMS data (or sorbent trap monitoring system data), and 30-boiler operating day Hg emission tests for LEE qualification) according to the requirements in Table 5 to this subpart. (c) *Not Applicable*.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(d) Except for a 30-boiler operating day performance test based on CEMS (or sorbent trap monitoring system) data, where the concept of test runs does not apply, you must conduct a minimum of three separate test runs for each performance test, as specified in §63.7(e)(3). Each test run must comply with the minimum applicable sampling time or volume specified in Table 1 or 2 to this subpart. Sections 63.10005(d) and (h), respectively, provide special instructions for conducting performance tests based on CEMS or sorbent trap monitoring systems, and for conducting emission tests for LEE qualification. (e) To use the results of performance testing to determine compliance with the applicable emission limits in Table 1 or 2 to this subpart, proceed as follows: (1) Except for a 30-boiler operating day performance test based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), you must use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level. (2) If the limits are expressed in lb/MMBtu or lb/TBtu, you must use the F-factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 in appendix A-7 to part 60 of this chapter. In cases where an appropriate F-factor is not listed in Table 19-2 of Method 19, you may use F-factors from Table 1 in section 3.3.5 of appendix F to part 75 of this chapter, or F-factors derived using the procedures in section 3.3.6 of appendix to part 75 of this chapter. Use the following factors to convert the pollutant concentrations measured during the initial performance tests to units of lb/scf, for use in the applicable Method 19 equations: (i) Multiply SO_2 ppm by 1.66×10^{-7}; (ii) Multiply HCl ppm by 9.43×10^{-8}; (iii) Multiply HF ppm by 5.18×10^{-8}; (iv) Multiply HAP metals concentrations (mg/dscm) by 6.24×10^{-8}; and (v) Multiply Hg concentrations (µg/scm) by 6.24×10^{-11}. (3) To determine compliance with emission limits expressed in lb/MWh or lb/GWh, you must first calculate the pollutant mass emission rate during the performance test, in units of lb/h. For Hg, if a CEMS or sorbent trap monitoring system is used, use Equation A-2 or A-3 in appendix A to this subpart (as applicable). In all other cases, use an equation that has the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	general form of Equation A-2 or A-3, replacing the value of K with 1.66×10^{-7} lb/scf-ppm for SO_2, 9.43×10^{-8}lb/scf-ppm for HCl (if an HCl CEMS is used), 5.18×10^{-8} lb/scf-ppm for HF (if an HF CEMS is used), or 6.24×10^{-8} lb-scm/mg-scf for HAP metals and for HCl and HF (when performance stack testing is used), and defining C_h as the average SO_2, HCl, or HF concentration in ppm, or the average HAP metals concentration in mg/dscm. This calculation requires stack gas volumetric flow rate (scfh) and (in some cases) moisture content data (see §§63.10005(h)(3) and 63.10010). Then, if the applicable emission limit is in units of lb/GWh, use Equation A-4 in appendix A to this subpart to calculate the pollutant emission rate in lb/GWh. In this calculation, define $(M)_h$ as the calculated pollutant mass emission rate for the performance test (lb/h), and define $(MW)_h$ as the average electrical load during the performance test (megawatts). If the applicable emission limit is in lb/MWh rather than lb/GWh, omit the 10^3 term from Equation A-4 to determine the pollutant emission rate in lb/MWh. (f) If you elect to (or are required to) use CEMS to continuously monitor Hg, HCl, HF, SO_2, or PM emissions (or, if applicable, sorbent trap monitoring systems to continuously collect Hg emissions data), the following default values are available for use in the emission rate calculations during startup periods or shutdown periods (as defined in §63.10042). For the purposes of this subpart, these default values are not considered to be substitute data. (1) *Diluent cap values.* If you use CEMS (or, if applicable, sorbent trap monitoring systems) to comply with a heat input-based emission rate limit, you may use the following diluent cap values for a startup or shutdown hour in which the measured CO_2 concentration is below the cap value or the measured O_2 concentration is above the cap value: (i) For an IGCC EGU, you may use 1% for CO_2 or 19% for O_2. (ii) For all other EGUs, you may use 5% for CO_2 or 14% for O_2. (2) *Default electrical load.* If you use CEMS to continuously monitor Hg, HCl, HF, SO_2, or PM emissions (or, if applicable, sorbent trap monitoring systems to continuously collect Hg emissions data), the following default value is available for use in the emission rate calculations during startup periods or shutdown periods (as defined in §63.10042). For the purposes of this subpart, this default value is not considered to be substitute data. For a startup or shutdown hour in which there is heat input to an affected EGU but zero electrical load, you must calculate the pollutant emission rate using a value equivalent to 5% of the maximum sustainable electrical output, expressed in megawatts, as defined in section 6.5.2.1(a)(1) of Appendix A to part 75 of this chapter. This default electrical load is either the nameplate capacity of the EGU or the highest electrical load observed

Table IV – 1f – MACT Subpart UUUUU	
	in at least four representative quarters of EGU operation. For a monitored common stack, the default electrical load is used only when all EGUs are operating (i.e., combusting fuel) are in startup or shutdown mode, and have zero electrical generation. Under those conditions, a default electrical load equal to 5% of the combined maximum sustainable electrical load of the EGUs that are operating but have a total of zero electrical load must be used to calculate the hourly electrical output-based pollutant emissions rate. (g) Upon request, you shall make available to the EPA Administrator such records as may be necessary to determine whether the performance tests have been done according to the requirements of this section."
1f.3	**Monitoring Requirements:** Control of HAPs Emissions **§63.10010** - What are my monitoring, installation, operation, and maintenance requirements? "(a) Flue gases from the affected units under this subpart exhaust to the atmosphere through a variety of different configurations, including but not limited to individual stacks, a common stack configuration or a main stack plus a bypass stack. For the **CEMS**, PM CPMS, and sorbent trap monitoring systems used to provide data under this subpart, the continuous monitoring system installation requirements for these exhaust configurations are as follows: (1) Single unit-single stack configurations. For an affected unit that exhausts to the atmosphere through a single, dedicated stack, you shall either install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the stack or at a location in the ductwork downstream of all emissions control devices, where the pollutant and diluents concentrations are representative of the emissions that exit to the atmosphere. (2) Unit utilizing common stack with other affected unit(s). When an affected unit utilizes a common stack with one or more other affected units, but no non-affected units, you shall either: (i) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the duct leading to the common stack from each unit; or (ii) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the common stack." "(4) Unit with a main stack and a bypass stack. If the exhaust configuration of an affected unit consists of a main stack and a bypass stack, you shall install CEMS on both the main stack and the bypass stack, or, if it is not feasible to certify and quality-assure the data from a monitoring system on the bypass stack, you shall install a CEMS only on the main stack and

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	count bypass hours of deviation from the monitoring requirements." "(b) If you use an oxygen (O_2) or carbon dioxide (CO_2) CEMS to convert measured pollutant concentrations to the units of the applicable emissions limit, the O_2 or CO_2 concentrations shall be monitored at a location that represents emissions to the atmosphere, *i.e.,* at the outlet of the EGU, downstream of all emission control devices. You must install, certify, maintain, and operate the CEMS according to part 75 of this chapter. Use only quality-assured O_2 or CO_2 data in the emissions calculations; do not use part 75 substitute data values. (c) If you are required to use a stack gas flow rate monitor, either for routine operation of a sorbent trap monitoring system or to convert pollutant concentrations to units of an electrical output-based emission standard in Table 1 or 2 to this subpart, you must install, certify, operate, and maintain the monitoring system and conduct on-going quality-assurance testing of the system according to part 75 of this chapter. Use only unadjusted, quality-assured flow rate data in the emissions calculations. Do not apply bias adjustment factors to the flow rate data and do not use substitute flow rate data in the calculations. (d) If you are required to make corrections for stack gas moisture content when converting pollutant concentrations to the units of an emission standard in Table 1 of 2 to this subpart, you must install, certify, operate, and maintain a moisture monitoring system in accordance with part 75 of this chapter. Alternatively, for coal-fired units, you may use appropriate fuel-specific default moisture values from §75.11(b) of this chapter to estimate the moisture content of the stack gas or you may petition the Administrator under §75.66 of this chapter for use of a default moisture value for non-coal-fired units. If you install and operate a moisture monitoring system, do not use substitute moisture data in the emissions calculations. (e) If you use an HCl and/or HF CEMS, you must install, certify, operate, maintain, and quality-assure the data from the monitoring system in accordance with appendix B to this subpart. Calculate and record a 30-boiler operating day rolling average HCl or HF emission rate in the units of the standard, updated after each new boiler operating day. Each 30-boiler operating day rolling average emission rate is the average of all the valid hourly HCl or HF emission rates in the preceding 30 boiler operating days (see section 9.4 of appendix B to this subpart). (f)(1) If you use an SO_2 CEMS, you must install the monitor at the outlet of the EGU, downstream of all emission control devices, and you must certify, operate, and maintain the CEMS according to part 75 of this chapter.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(2) For on-going QA, the SO_2 CEMS must meet the applicable daily, quarterly, and semiannual or annual requirements in sections 2.1 through 2.3 of appendix B to part 75 of this chapter, with the following addition: You must perform the linearity checks required in section 2.2 of appendix B to part 75 of this chapter if the SO_2 CEMS has a span value of 30 ppm or less. (3) Calculate and record a 30-boiler operating day rolling average SO_2 emission rate in the units of the standard, updated after each new boiler operating day. Each 30-boiler operating day rolling average emission rate is the average of all of the valid SO_2 emission rates in the preceding 30 boiler operating days. (4) Use only unadjusted, quality-assured SO_2 concentration values in the emissions calculations; do not apply bias adjustment factors to the part 75 SO_2 data and do not use part 75 substitute data values. For startup or shutdown hours (as defined in §63.10042) the default electrical load and the diluent cap are available for use in the hourly SO_2 emission rate calculations, as described in §63.10007(f). Use a flag to identify each startup or shutdown hour and report a special code if the diluent cap or default electrical load is used to calculate the SO_2 emission rate for any of these hours. (g) If you use a Hg CEMS or a sorbent trap monitoring system, you must install, certify, operate, maintain and quality-assure the data from the monitoring system in accordance with appendix A to this subpart. You must calculate and record a 30- (or, if alternate emissions averaging is used, 90-) boiler operating day rolling average Hg emission rate, in units of the standard, updated after each new boiler operating day. Each 30- (or, if alternate emissions averaging is used, 90-) boiler operating day rolling average emission rate, calculated according to section 6.2 of appendix A to the subpart, is the average of all of the valid hourly Hg emission rates in the preceding 30- (or, if alternate emissions averaging is used, a 90-) boiler operating days. Section 7.1.4.3 of appendix A to this subpart explains how to reduce sorbent trap monitoring system data to an hourly basis. (h) *Not Applicable*. (i) If you choose to comply with the PM filterable emissions limit in lieu of metal HAP limits, you may choose to install, certify, operate, and maintain a **PM CEMS** and record the output of the PM CEMS as specified in paragraphs (i)(1) through (5) of this section. The compliance limit will be expressed as a 30-boiler operating day rolling average of the numerical emissions limit value applicable for your unit in tables 1 or 2 to this subpart.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(1) Install and certify your PM CEMS according to the procedures and requirements in Performance Specification 11—Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix B to part 60 of this chapter, using Method 5 at Appendix A-3 to part 60 of this chapter and ensuring that the front half filter temperature shall be 160° ±14 °C (320° ±25 °F). The reportable measurement output from the PM CEMS must be expressed in units of the applicable emissions limit (e.g., lb/MMBtu, lb/MWh). (2) Operate and maintain your PM CEMS according to the procedures and requirements in Procedure 2—Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix F to part 60 of this chapter. (i) You must conduct the relative response audit (RRA) for your PM CEMS at least once annually. (ii) You must conduct the relative correlation audit (RCA) for your PM CEMS at least once every 3 years. (3) Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in paragraph (i) of this section. (4) Calculate the arithmetic 30-boiler operating day rolling average of all of the hourly average PM CEMS output data collected during all nonexempt boiler operating hours. (5) You must collect data using the PM CEMS at all times the process unit is operating and at the intervals specified in paragraph (a) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. (i) You must use all the data collected during all boiler operating hours in assessing the compliance with your operating limit except: (A) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions in calculations and report any such periods in your annual deviation report; (B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out of control periods in calculations used to report emissions or operating levels and report any such periods in your annual deviation report; (C) Any data recorded during periods of startup or shutdown.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(ii) You must record and make available upon request results of PM CEMS system performance audits, dates and duration of periods when the PM CEMS is out of control to completion of the corrective actions necessary to return the PM CEMS to operation consistent with your site-specific monitoring plan. (j) You may choose to comply with the metal HAP emissions limits using CEMS approved in accordance with §63.7(f) as an alternative to the performance test method specified in this rule. If approved to use a HAP metals CEMS, the compliance limit will be expressed as a 30-boiler operating day rolling average of the numerical emissions limit value applicable for your unit in tables 1 or 2. If approved, you may choose to install, certify, operate, and maintain a HAP metals CEMS and record the output of the HAP metals CEMS as specified in paragraphs (j)(1) through (5) of this section. (1)(i) Install and certify your HAP metals CEMS according to the procedures and requirements in your approved site-specific test plan as required in §63.7(e). The reportable measurement output from the HAP metals CEMS must be expressed in units of the applicable emissions limit (*e.g.,* lb/MMBtu, lb/MWh) and in the form of a 30-boiler operating day rolling average. (ii) Operate and maintain your HAP metals CEMS according to the procedures and criteria in your site specific performance evaluation and quality control program plan required in §63.8(d). (2) Collect HAP metals CEMS hourly average output data for all boiler operating hours except as indicated in section (j)(4) of this section. (3) Calculate the arithmetic 30-boiler operating day rolling average of all of the hourly average HAP metals CEMS output data collected during all nonexempt boiler operating hours data. (4) You must collect data using the HAP metals CEMS at all times the process unit is operating and at the intervals specified in paragraph (a) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. (i) You must use all the data collected during all boiler operating hours in assessing the compliance with your emission limit except: (A) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions in calculations and report any such periods in your annual deviation report;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out of control periods in calculations used to report emissions or operating levels and report any such periods in your annual deviation report; (C) Any data recorded during periods of startup or shutdown. (ii) You must record and make available upon request results of HAP metals CEMS system performance audits, dates and duration of periods when the HAP metals CEMS is out of control to completion of the corrective actions necessary to return the HAP metals CEMS to operation consistent with your site-specific performance evaluation and quality control program plan." **§63.10011** - <u>How do I demonstrate initial compliance with the emissions limits and work practice standards?</u> (a) You must demonstrate initial compliance with each emissions limit that applies to you by conducting performance testing. (b) *Not Applicable.* (c)(1) If you use **CEMS** or sorbent trap monitoring systems to measure a HAP (e.g., Hg or HCl) directly, the first 30-boiler operating day (or, if alternate emissions averaging is used for Hg, the 90-boiler operating day) rolling average emission rate obtained with certified CEMS after the applicable date in §63.9984 (or, if applicable, prior to that date, as described in §63.10005(b)(2)), expressed in units of the standard, is the initial performance test. Initial compliance is demonstrated if the results of the performance test meet the applicable emission limit in Table 1 or 2 to this subpart. (2) For a unit that uses a **CEMS to measure SO_2 or PM** emissions for initial compliance, the first 30 boiler operating day average emission rate obtained with certified CEMS after the applicable date in §63.9984 (or, if applicable, prior to that date, as described in §63.10005(b)(2)), expressed in units of the standard, is the initial performance test. Initial compliance is demonstrated if the results of the performance test meet the applicable SO_2 or filterable PM emission limit in Table 1 or 2 to this subpart." "(e) You must submit a Notification of Compliance Status containing the results of the initial compliance demonstration, according to §63.10030(e). (f)(1) You must determine the fuel whose combustion produces the least uncontrolled emissions, i.e., the cleanest fuel, either natural gas or distillate oil, that is available on site or accessible nearby for use during periods of startup or shutdown.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(2) Your cleanest fuel, either natural gas or distillate oil, for use during periods of startup or shutdown determination may take safety considerations into account. (g) You must follow the startup or shutdown requirements given in Table 3 for each coal-fired, liquid oil-fired, and solid oil-derived fuel-fired EGU. (1) You may use the diluent cap and default electrical load values, as described in §63.10007(f), during startup periods or shutdown periods. (2) You must operate all CMS, collect data, calculate pollutant emission rates, and record data during startup periods or shutdown periods. (3) You must report the information as required in §63.10031. (4) If you choose to use paragraph (2) of the definition of "startup" in §63.10042 and you find that you are unable to safely engage and operate your particulate matter (PM) control(s) within 1 hour of first firing of coal, residual oil, or solid oil-derived fuel, you may choose to rely on paragraph (1) of definition of "startup" in §63.10042 or you may submit a request to use an alternative non-opacity emissions standard, as described below. (i) As mentioned in §63.6(g)(1), the request will be published in the FEDERAL REGISTER for notice and comment rulemaking. Until promulgation in the FEDERAL REGISTER of the final alternative non-opacity emission standard, you shall comply with paragraph (1) of the definition of "startup" in §63.10042. You shall not implement the alternative non-opacity emissions standard until promulgation in the FEDERAL REGISTER of the final alternative non-opacity emission standard. (ii) The request need not address the items contained in §63.6(g)(2). (iii) The request shall provide evidence of a documented manufacturer-identified safely issue. (iv) The request shall provide information to document that the PM control device is adequately designed and sized to meet the PM emission limit applicable to the EGU. (v) In addition, the request shall contain documentation that: (A) The EGU is using clean fuels to the maximum extent possible to bring the EGU and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel in the EGU; (B) The EGU has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue; and (C) Identifies with specificity the details of the manufacturer's statement of concern. (vi) The request shall specify the other work practice standards the EGU owner or operator will take to limit HAP emissions during startup periods and shutdown periods to ensure a control level consistent with the work practice standards of the final rule.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(vii) You must comply with all other work practice requirements, including but not limited to data collection, recordkeeping, and reporting requirements." Continuous Compliance Requirements **§63.10020** - How do I monitor and collect data to demonstrate continuous compliance? "(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.10000(d). (b) You must operate the monitoring system and collect data at all required intervals at all times that the affected EGU is operating, except for periods of monitoring system malfunctions or out-of-control periods (see §63.8(c)(7) of this part), and required monitoring system quality assurance or quality control activities, including, as applicable, calibration checks and required zero and span adjustments. You are required to affect monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable. (c) You may not use data recorded during EGU startup or shutdown or monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system. (d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments), failure to collect required data is a deviation from the monitoring requirements. (e) Additional requirements during startup periods and shutdown periods (1) During each period of startup, you must record for each EGU: (i) The date and time that clean fuels being combusted for the purpose of startup begins; (ii) The quantity and heat input of clean fuel for each hour of startup; (iii) The electrical load for each hour of startup; (iv) The date and time that non-clean fuel combustion begins; and (v) The date and time that clean fuels being combusted for the purpose of startup ends.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(2) During each period of shutdown, you must record for each EGU: (i) The date and time that clean fuels being combusted for the purpose of shutdown begins; (ii) The quantity and heat input of clean fuel for each hour of shutdown; (iii) The electrical load for each hour of shutdown; (iv) The date and time that non-clean fuel combustion ends; and (v) The date and time that clean fuels being combusted for the purpose of shutdown ends. (3) For PM or non-mercury HAP metals work practice monitoring during startup periods, you must monitor and collect data according to this section and the site-specific monitoring plan required by §63.10011(l). (i) Except for an EGU that uses **PM CEMS** or PM CPMS to demonstrate compliance with the PM emissions limit or that has LEE status for filterable PM or total non-Hg HAP metals for non-liquid oil-fired EGUs (or HAP metals emissions for liquid oil-fired EGUs), or individual non-mercury metals CEMS you must: (A) Record temperature and flow rate of post-combustion (exhaust) gas and amperage of forced draft fan(s) upstream of each filterable PM control device during each hour of startup. (B) Record temperature and flow rate of exhaust gas and amperage of induced draft fan(s) downstream of each filterable control device during each hour of startup. (C) *Not Applicable*. (D) *Not Applicable.* (E) For an EGU with a wet scrubber needed for filterable PM control, record the scrubber liquid to fuel ratio and the differential pressure of the liquid during each hour of startup." **§63.10021** - <u>How do I demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards?</u> "(a) You must demonstrate continuous compliance with each emissions limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that applies to you, according to the monitoring specified in Tables 6 and 7 to this subpart and paragraphs (b) through (g) of this section. (b) Except as otherwise provided in §63.10020(c), if you use a **CEMS to measure SO_2, PM, HCl, HF, or Hg emissions**, or using a sorbent trap monitoring system to measure Hg emissions, you must demonstrate continuous compliance by using all quality-assured hourly data recorded by the CEMS (or sorbent trap monitoring system) and the other required monitoring systems (e.g., flow rate, CO_2 , O_2 , or moisture systems) to calculate the arithmetic average emissions rate in units of the standard on

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	a continuous 30-boiler operating day (or, if alternate emissions averaging is used for Hg, 90-boiler operating day) rolling average basis, updated at the end of each new boiler operating day. Use Equation 8 to determine the 30- (or, if applicable, 90-) boiler operating day rolling average. $Boiler\ operating\ day\ average = \frac{\sum_{i=1}^{n} Her_i}{n}$ (Eq. 8) Where: Her_i is the hourly emissions rate for hour i and n is the number of hourly emissions rate values collected over 30- (or, if applicable, 90-) boiler operating days. "(e) If you must conduct periodic performance tune-ups of your EGU(s), as specified in paragraphs (e)(1) through (9) of this section, perform the first tune-up as part of your initial compliance demonstration. Notwithstanding this requirement, you may delay the first burner inspection until the next scheduled unit outage provided you meet the requirements of §63.10005. Subsequently, you must perform an inspection of the burner at least once every 36 calendar months unless your EGU employs neural network combustion optimization during normal operations in which case you must perform an inspection of the burner and combustion controls at least once every 48 calendar months. (1) As applicable, inspect the burner and combustion controls, and clean or replace any components of the burner or combustion controls as necessary upon initiation of the work practice program and at least once every required inspection period. Repair of a burner or combustion control component requiring special order parts may be scheduled as follows: (i) Burner or combustion control component parts needing replacement that affect the ability to optimize NO_X and CO must be installed within 3 calendar months after the burner inspection, (ii) Burner or combustion control component parts that do not affect the ability to optimize NO_X and CO may be installed on a schedule determined by the operator; (2) As applicable, inspect the flame pattern and make any adjustments to the burner or combustion controls necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available, or in accordance with best combustion engineering practice for that burner type; (3) As applicable, observe the damper operations as a function of mill and/or cyclone loadings, cyclone and pulverizer coal feeder loadings, or other pulverizer and coal mill performance parameters, making adjustments and effecting repair to dampers, controls, mills, pulverizers, cyclones, and sensors; (4) As applicable, evaluate wind box pressures and air proportions, making adjustments and effecting repair to dampers, actuators, controls,

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	and sensors; (5) Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly. Such inspection may include calibrating excess O_2 probes and/or sensors, adjusting overfire air systems, changing software parameters, and calibrating associated actuators and dampers to ensure that the systems are operated as designed. Any component out of calibration, in or near failure, or in a state that is likely to negate combustion optimization efforts prior to the next tune-up, should be corrected or repaired as necessary; (6) Optimize combustion to minimize generation of CO and NO_X. This optimization should be consistent with the manufacturer's specifications, if available, or best combustion engineering practice for the applicable burner type. NO_X optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, adjusting combustion zone temperature profiles, and add-on controls such as SCR and SNCR; CO optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, and adjusting combustion zone temperature profiles; (7) While operating at full load or the predominantly operated load, measure the concentration in the effluent stream of CO and NO_X in ppm, by volume, and oxygen in volume percent, before and after the tune-up adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). You may use portable CO, NO_X and O_2 monitors for this measurement. EGU's employing neural network optimization systems need only provide a single pre- and post-tune-up value rather than continual values before and after each optimization adjustment made by the system; (8) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (e)(1) through (e)(9) of this section including: (i) The concentrations of CO and NO_X in the effluent stream in ppm by volume, and oxygen in volume percent, measured before and after an adjustment of the EGU combustion systems; (ii) A description of any corrective actions taken as a part of the combustion adjustment; and (iii) The type(s) and amount(s) of fuel used over the 12 calendar months prior to an adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period; and

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(9) Report the dates of the initial and subsequent tune-ups as follows: (i) If the first required tune-up is performed as part of the initial compliance demonstration, report the date of the tune-up in hard copy (as specified in §63.10030) and electronically (as specified in §63.10031). Report the date of each subsequent tune-up electronically (as specified in §63.10031). (ii) If the first tune-up is not conducted as part of the initial compliance demonstration, but is postponed until the next unit outage, report the date of that tune-up and all subsequent tune-ups electronically, in accordance with §63.10031." "(f) You must submit the reports required under §63.10031 and, if applicable, the reports required under appendices A and B to this subpart. The electronic reports required by appendices A and B to this subpart must be sent to the Administrator electronically in a format prescribed by the Administrator, as provided in §63.10031. CEMS data (except for PM CEMS and any approved alternative monitoring using a HAP metals CEMS) shall be submitted using EPA's Emissions Collection and Monitoring Plan System (ECMPS) Client Tool. Other data, including PM CEMS data, HAP metals CEMS data, and CEMS performance test detail reports, shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool, the Compliance and Emissions Data Reporting Interface, or alternate electronic file format, all as provided for under §63.10031." "(g) You must report each instance in which you did not meet an applicable emissions limit or operating limit in Tables 1 through 4 to this subpart or failed to conduct a required tune-up. These instances are deviations from the requirements of this subpart. These deviations must be reported according to §63.10031. (h) You must keep records as specified in §63.10032 during periods of startup and shutdown. (1) You may use the diluent cap and default electrical load values, as described in §63.10007(f), during startup periods or shutdown periods. (2) You must operate all CMS, collect data, calculate pollutant emission rates, and record data during startup periods or shutdown periods. (3) You must report the information as required in §63.10031. (4) You may choose to submit an alternative non-opacity emission standard, in accordance with the requirements contained in §63.10011(g)(4). Until promulgation in the FEDERAL REGISTER of the final alternative non-opacity emission standard, you shall comply with paragraph (1) of the definition of "startup" in §63.10042. (i) You must provide reports as specified in §63.10031 concerning activities and periods of startup and shutdown."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU

Table 7 to Subpart UUUUU of Part 63—Demonstrating Continuous Compliance

As stated in §63.10021, you must show continuous compliance with the emission limitations for affected sources according to the following:

If you use one of the following to meet applicable emissions limits, operating limits, or work practice standards...	You demonstrate continuous compliance by...
1. **CEMS to measure filterable PM, SO_2, HCl, HF, or Hg emissions**, or using a sorbent trap monitoring system to measure Hg	Calculating the 30- (or 90-) boiler operating day rolling arithmetic average emissions rate in units of the applicable emissions standard basis at the end of each boiler operating day using all of the quality assured hourly average CEMS or sorbent trap data for the previous 30- (or 90-) boiler operating days, excluding data recorded during periods of startup or shutdown.
5. Conducting periodic performance tune-ups of your EGU(s)	Conducting periodic performance tune-ups of your EGU(s), as specified in §63.10021(e).
6. Work practice standards for **coal-fired**, liquid oil-fired, or solid oil-derived fuel-fired EGUs during startup	Operating in accordance with Table 3.
7. Work practice standards for **coal-fired**, liquid oil-fired, or solid oil-derived fuel-fired EGUs during shutdown	Operating in accordance with Table 3.

1f.4

Record Keeping Requirements:
Note: All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]**

Control of HAPs Emissions
Notification, Reports, and Records
§63.10032 - What records must I keep?
"(a) You must keep records according to paragraphs (a)(1) and (2) of this section. If you are required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, you must also keep the records required under appendix A and/or appendix B to this subpart.
(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	you submitted, according to the requirements in §63.10(b)(2)(xiv). (2) Records of performance stack tests, fuel analyses, or other compliance demonstrations and performance evaluations, as required in §63.10(b)(2)(viii). (b) For each **CEMS** and CPMS, you must keep records according to paragraphs (b)(1) through (4) of this section. (1) Records described in §63.10(b)(2)(vi) through (xi). (2) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3). (3) Request for alternatives to relative accuracy test for CEMS as required in §63.8(f)(6)(i). (4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period. (c) You must keep the records required in Table 7 to this subpart including records of all monitoring data and calculated averages for applicable PM CPMS operating limits to show continuous compliance with each emission limit and operating limit that applies to you. (d) For each EGU subject to an emission limit, you must also keep the records in paragraphs (d)(1) through (3) of this section. (1) You must keep records of monthly fuel use by each EGU, including the type(s) of fuel and amount(s) used. (2) *Not Applicable*. (3) *Not Applicable*." "(f) You must keep records of the occurrence and duration of each startup and/or shutdown. (g) You must keep records of the occurrence and duration of each malfunction of an operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment. (h) You must keep records of actions taken during periods of malfunction to minimize emissions in accordance with §63.10000(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. (i) You must keep records of the type(s) and amount(s) of fuel used during each startup or shutdown." **§63.10033** - <u>In what form and how long must I keep my records?</u> "(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). (b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance,

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	corrective action, report, or record. (c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years."
1f.5	**Reporting Requirements:** Control of HAPs Emissions **Notification, Reports, and Records** **§63.10030** - What notifications must I submit and when? "(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) that apply to you by the dates specified. (b) As specified in §63.9(b)(2), if you startup your EGU that is an affected source before April 16, 2012, you must submit an Initial Notification not later than 120 days after April 16, 2012." "(d) When you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin. (e) 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 (7), as applicable. (1) A description of the affected source(s) including identification of which subcategory the source is in, the design capacity of the source, a description of the add-on controls used on the source, description of the fuel(s) burned, including whether the fuel(s) were determined by you or EPA through a petition process to be a non-waste under 40 CFR 241.3, whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of 40 CFR 241.3, and justification for the selection of fuel(s) burned during the performance test. (2) Summary of the results of all performance tests and fuel analyses and calculations conducted to demonstrate initial compliance including all established operating limits. (3) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing; fuel moisture analyses; performance testing with operating limits (e.g., use of PM CPMS); **CEMS**; or a sorbent trap monitoring system. (4) Identification of whether you plan to demonstrate compliance by emissions averaging.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(5) A signed certification that you have met all applicable emission limits and work practice standards. (6) If you had a deviation from any emission limit, work practice standard, or operating limit, you must also submit a brief description of the deviation, the duration of the deviation, emissions point identification and the cause of the deviation in the Notification of Compliance Status report. (7) In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following: (i) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable. If you are conducting stack tests once every 3 years consistent with §63.10006(b), the date of the last three stack tests, a comparison of the emission level you achieved in the last three stack tests to the 50 percent emission limit threshold required in §63.10006(i), and a statement as to whether there have been any operational changes since the last stack test that could increase emissions. (ii) Certifications of compliance, as applicable, and must be signed by a responsible official stating: (A) "This EGU complies with the requirements in §63.10021(a) to demonstrate continuous compliance." and (B) "No secondary materials that are solid waste were combusted in any affected unit." "(8) Identification of whether you plan to rely on paragraph (1) or (2) of the definition of "startup" in §63.10042. (i) Should you choose to rely on paragraph (2) of the definition of "startup" in §63.10042 for your EGU, you shall include a report that identifies: (A) The original EGU installation date; (B) The original EGU design characteristics, including, but not limited to, fuel and PM controls; (C) Each design PM control device efficiency; (D) The design PM emission rate from the EGU in terms of pounds PM per MMBtu and pounds PM per hour; (E) The design time from start of fuel combustion to necessary conditions for each PM control device startup; (F) Each design PM control device efficiency upon startup of the PM control device; (G) The design EGU uncontrolled PM emission rate in terms of pounds PM per hour; (H) Each change from the original design that did or could have changed PM emissions, including, but not limited to, each different fuel mix, each revision to each PM control device, and each EGU revision, along with the month and year that the change occurred;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(I) Current EGU PM producing characteristics, including, but not limited to, fuel mix and PM controls; (J) Current PM emission rate from the EGU in terms of pounds PM per MMBtu and pounds per hour; (K) Current PM control device efficiency from each PM control device; (L) Current time from start of fuel combustion to conditions necessary for each PM control device startup; (M) Current PM control device efficiency upon startup of each PM control device; and (N) Current EGU uncontrolled PM emission rate in terms of pounds PM per hour. (ii) The report shall be prepared, signed, and sealed by a professional engineer licensed in the state where your EGU is located. Apart from preparing, signing, and sealing this report, the professional engineer shall be independent and not otherwise employed by your company, any parent company of your company, or any subsidiary of your company." **§63.10031** - <u>What reports must I submit and when?</u> "(a) You must submit each report in Table 8 to this subpart that applies to you. If you are required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, you must also submit the electronic reports required under appendix A and/or appendix B to the subpart, at the specified frequency. (b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 8 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section. (1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.9984 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in §63.9984. (2) The first compliance report must be postmarked or submitted electronically no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.9984. (3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. (4) Each subsequent compliance report must be postmarked or submitted electronically no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	(5) For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section. (c) The compliance report must contain the information required in paragraphs (c)(1) through (4) of this section. (1) The information required by the summary report located in 63.10(e)(3)(vi). (2) The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure. (3) Indicate whether you burned new types of fuel during the reporting period. If you did burn new types of fuel you must include the date of the performance test where that fuel was in use. (4) Include the date of the most recent tune-up for each unit subject to the requirement to conduct a performance tune-up according to §63.10021(e). Include the date of the most recent burner inspection if it was not done every 36 (or 48) months and was delayed until the next scheduled unit shutdown. (5) For each instance of startup or shutdown: (i) Include the maximum clean fuel storage capacity and the maximum hourly heat input that can be provided for each clean fuel determined according to the requirements of §63.10032(f). (ii) Include the information required to be monitored, collected, or recorded according to the requirements of §63.10020(e). (iii) If you choose to use CEMS for compliance purposes, include hourly average CEMS values and hourly average flow rates. Use units of milligrams per cubic meter for PM CEMS, micrograms per cubic meter for Hg CEMS, and ppmv for HCl, HF, or SO_2 CEMS. Use units of standard cubic meters per hour on a wet basis for flow rates. (iv) If you choose to use a separate sorbent trap measurement system for startup or shutdown reporting periods, include hourly average mercury concentration in terms of micrograms per cubic meter. (v) If you choose to use a PM CPMS, include hourly average operating parameter values in terms of the operating limit, as well as the operating parameter to PM correlation equation. (d) For each excess emissions occurring at an affected source where you

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	are using a CMS to comply with that emission limit or operating limit, you must include the information required in §63.10(e)(3)(v) in the compliance report specified in section (c). (e) Each affected source that has obtained a Title V operating permit pursuant to part 70 or part 71 of this chapter must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 8 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. Submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority. (f) On or after **April 16, 2017**, within 60 days after the date of completing each performance test, you must submit the performance test reports required by this subpart to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using those test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority. (1) On or after **April 16, 2017**, within 60 days after the date of completing each **CEMS (SO_2, PM, HCl, HF, and Hg)** performance evaluation test, as defined in §63.2 and required by this subpart, you must submit the relative

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	accuracy test audit (RATA) data (or, for PM CEMS, RCA and RRA data) required by this subpart to EPA's WebFIRE database by using CEDRI that is accessed through EPA's CDX (*www.epa.gov/cdx*). The RATA data shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (*http://www.epa.gov/ttn/chief/ert/index.html*). Only RATA data compounds listed on the ERT Web site are subject to this requirement. Owners or operators who claim that some of the information being submitted for RATAs is confidential business information (CBI) shall submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) by registered letter to EPA and the same ERT file with the CBI omitted to EPA via CDX as described earlier in this paragraph. The compact disk or other commonly used electronic storage media shall be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. At the discretion of the delegated authority, owners or operators shall also submit these RATAs to the delegated authority in the format specified by the delegated authority. Owners or operators shall submit calibration error testing, drift checks, and other information required in the performance evaluation as described in §63.2 and as required in this chapter. (2) On or after April 16, 2017, for a PM CEMS, PM CPMS, or approved alternative monitoring using a HAP metals CEMS, within 60 days after the reporting periods ending on March 31st, June 30th, September 30th, and December 31st, you must submit quarterly reports to EPA's WebFIRE database by using the CEDRI that is accessed through EPA's CDX (*www.epa.gov/cdx*). You must use the appropriate electronic reporting form in CEDRI or provide an alternate electronic file consistent with EPA's reporting form output format. For each reporting period, the quarterly reports must include all of the calculated 30-boiler operating day rolling average values derived from the CEMS and PM CPMS. (3) Reports for an SO_2 CEMS, a Hg CEMS or sorbent trap monitoring system, an HCl or HF CEMS, and any supporting monitors for such systems (such as a diluent or moisture monitor) shall be submitted using the ECMPS Client Tool, as provided for in Appendices A and B to this subpart and §63.10021(f). (4) On or after April 16, 2017, submit the compliance reports required under paragraphs (c) and (d) of this section and the notification of compliance status required under §63.10030(e) to EPA's WebFIRE database by using the CEDRI that is accessed through EPA's CDX (*www.epa.gov/cdx*). You must use the appropriate electronic reporting form in CEDRI or provide an alternate electronic file consistent with EPA's

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU	
	reporting form output format. (5) All reports required by this subpart not subject to the requirements in paragraphs (f) introductory text and (f)(1) through (4) of this section must be sent to the Administrator at the appropriate address listed in §63.13. If acceptable to both the Administrator and the owner or operator of an EGU, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraphs (f) introductory text and (f)(1) through (4) of this section in paper format. (6) Prior to April 16, 2017, all reports subject to electronic submittal in paragraphs (f) introductory text, (f)(1), (2), and (4) shall be submitted to the EPA at the frequency specified in those paragraphs in electronic portable document format (PDF) using the ECMPS Client Tool. Each PDF version of a submitted report must include sufficient information to assess compliance and to demonstrate that the testing was done properly. The following data elements must be entered into the ECMPS Client Tool at the time of submission of each PDF file: (i) The facility name, physical address, mailing address (if different from the physical address), and county; (ii) The ORIS code (or equivalent ID number assigned by EPA's Clean Air Markets Division (CAMD)) and the Facility Registry System (FRS) ID; (iii) The EGU (or EGUs) to which the report applies. Report the EGU IDs as they appear in the CAMD Business System; (iv) If any of the EGUs in paragraph (f)(6)(iii) of this section share a common stack, indicate which EGUs share the stack. If emissions data are monitored and reported at the common stack according to part 75 of this chapter, report the ID number of the common stack as it is represented in the electronic monitoring plan required under §75.53 of this chapter; (v) If any of the EGUs described in paragraph (f)(6)(iii) of this section are in an averaging plan under §63.10009, indicate which EGUs are in the plan and whether it is a 30- or 90-day averaging plan; (vi) The identification of each emission point to which the report applies. An “emission point” is a point at which source effluent is released to the atmosphere, and is either a dedicated stack that serves one of the EGUs identified in paragraph (f)(6)(iii) of this section or a common stack that serves two or more of those EGUs. To identify an emission point, associate it with the EGU or stack ID in the CAMD Business system or the electronic monitoring plan (*e.g.,* “Unit 2 stack,” “common stack CS001,” or “multiple stack MS001”); (vii) The rule citation (*e.g.,* §63.10031(f)(1), §63.10031(f)(2), etc.) for which the report is showing compliance;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 1f – MACT Subpart UUUUU

(viii) The pollutant(s) being addressed in the report;
(ix) The reporting period being covered by the report (if applicable);
(x) The relevant test method that was performed for a performance test (if applicable);
(xi) The date the performance test was conducted (if applicable); and
(xii) The responsible official's name, title, and phone number.
(g) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded."

Table 8 to Subpart UUUUU of Part 63—Reporting Requirements
As stated in §63.10031, you must comply with the following requirements for reports:

You must submit a...	The report must contain...	You must submit the report...
1. Compliance report	a. Information required in §63.10031(c)(1) through (4); and b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and	Semiannually according to the requirements in §63.10031(b).
	c. If you have a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in §63.10031(d). If there were periods during which the CMSs, including continuous emissions monitoring systems and continuous parameter monitoring systems, were out-of-control, as specified in §63.8(c)(7), the report must contain the information in §63.10031(e)	

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
2.0	**Emissions Unit Number(s): F-CT1 thru F-CT6: Combustion Turbines** **F-CT1 and F-CT2** – Two (2) General Electric Frame-5 combustion turbines each rated at 20 MW and used for black start capability and peaking service. These combustion turbines are fired on No. 2 fuel oil. The exhaust gas is vented to single 20 ft high stacks. **[4-0068 & 4-0069]** **F-CT3, F-CT4, F-CT5, F-CT6** – Four (4) General Electric Frame 7 combustion turbine each rated at 65 MW and used for peaking service. These combustion turbines are fired on No. 2 fuel oil. The exhaust gas is vented to single 20 ft high stacks. [**4-0070, 4-0071, 4-0073 & 4-0074]**
2.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05A (1) & (3)** – Fuel Burning Equipment "Areas I, II, V, and VI. In Areas I, II, V, and VI, 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 greater than 20 percent opacity. 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." B. Control of Sulfur Oxides **COMAR 26.11.09.07A(1)** - Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI: (a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour; (b) Residual fuel oils, 2.0 percent; **(c) Distillate fuel oils, 0.3 percent;** (d) Process gas used as fuel, 0.3 percent."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
	C. Control of Nitrogen Oxides **COMAR 26.11.09.08G**. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. "(1)A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; (c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request; (d) Not applicable; and (e) Not applicable." (2) A person who owns or operates a combustion turbine with a capacity factor greater than 15 percent shall meet an hourly average NO_X emission rate of not more than 42 ppm when burning gas or 65 ppm when burning fuel oil (dry volume at 15 percent oxygen) or meet applicable Prevention of Significant Deterioration limits, whichever is more restrictive." **Cross-State Air Pollution Rule** **TR NO_X Annual Trading Program 40 CFR Part 97 Subpart AAAAA** The Permittee shall comply with the provisions and requirements of §97.401 through §97.435 **Note: §97.406(c) NO_X emissions requirements**. For TR NO_X Annual emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall hold, in the source's compliance account, TR NO_X Annual allowances available for deduction for such control period under §97.424(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Annual units at the source. Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Annual allowance transfer must be submitted for recordation in a TR NO_X Annual source's compliance account in order to be available for use in complying with the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
	source's TR NO_X Annual emissions limitation for such control period in accordance with §§97.406 and 97.424. **TR NO_X Ozone Season Trading Program 40 CFR Part 97 Subpart BBBBB** The Permittee shall comply with the provisions and requirements of §97.501 through §97.535 **Note: §97.506(c) NO_X emissions requirements**. For TR NO_X Ozone Season emissions limitation: As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall hold, in the source's compliance account, TR NO_X Ozone Season allowances available for deduction for such control period under §97.524(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Ozone Season units at the source. Allowance transfer deadline means, for a control period in a given year, midnight of December 1 (if it is a business day), or midnight of the first business day thereafter (if December 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Ozone Season allowance transfer must be submitted for recordation in a TR NO_X Ozone Season source's compliance account in order to be available for use in complying with the source's TR NO_X Ozone Season emissions limitation for such control period in accordance with §§97.506 and 97.524.
2.2	**<u>Testing Requirements</u>:** A. <u>Control of Visible Emissions</u>: See Monitoring Requirements. B. <u>Control of Sulfur Oxides</u>: See Monitoring Requirements. C. <u>Control of Nitrogen Oxides</u>: The Permittee, if the turbines operate more than 500 hours, shall perform a combustion analysis and optimize combustion at least once annually. [**Reference: COMAR 26.11.09.08G(1)(b)]**.
2.3	**<u>Monitoring Requirements:</u>** A. <u>Control of Visible Emissions</u> The Permittee shall utilize the computer software program previously

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
	installed, or an equivalent computer software program, to prompt the tracking review of the operating hours of each combustion turbine at the Morgantown Plant and to alert Plant personnel to conduct Method 9 Observations as required by Section IV of the Plant's Title V operating permit. [**Reference: March 2008 Consent Decree Section IV: Monitoring Operating Hours, Paragraph 6**]. The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours of operation or at a minimum once per year. The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity: (a) inspect combustion control system and combustion turbine operations, (b) perform all necessary adjustments and/or repairs to the combustion turbine within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the combustion turbine. The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily when combustion turbine operating for 18 minutes until corrective action have reduce visible emissions to less than 20 percent opacity. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides: The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides: See Record Keeping Requirements. **Cross-State Air Pollution Rule** The Permittee shall comply with the monitoring requirements found in §97.406, §97.430, §97.431, §97.432, and §97.433 for the NO_X Annual Trading Program and §97.506, §97.530, §97.531, §97.532, and §97.533 for the NO_X Ozone Season Trading Program.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
2.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall keep a copy of the visible emissions readings and the certification of the visible emission reader(s) for at least five years on site and make available to the Department upon request. [**Reference: COMAR 26.11.03.06C**] B. Control of Sulfur Oxides: The Permittee shall maintain records of fuel supplier's certification and shall make records available to the Department upon request. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides The Permittee shall maintain the results of the combustion analysis and any stack tests at the site for at least 5 years and make these results available to the Department and the EPA upon request. [**Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]** **Cross-State Air Pollution Rule** The Permittee shall comply with the recordkeeping requirements found in §97.406, §97.430, and §97.434 for the NO_X Annual Trading Program and §97.506, §97.530, and §97.534 for the NO_X Ozone Season Trading Program.
2.5	**Reporting Requirements:** A. Control of Visible Emissions: The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". B. Control of Sulfur Oxides: The Permittee shall report fuel supplier certifications to the Department upon request. **[Reference: COMAR 26.11.09.07C]** C. Control of Nitrogen Oxides The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with the support documentation in the Annual Emission Certification Report. **[Reference: COMAR 26.11.09.08G(1)(a)**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 2	
	COMAR 26.11.03.06C]. **Cross-State Air Pollution Rule** The Permittee shall comply with the reporting requirements found in §97.406, §97.430, §97.433 and §97.434 for the NO_X Annual Trading Program and §97.506, §97.530, §97.533, and §97.534 for the NO_X Ozone Season Trading Program.

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 3	
3.0	**<u>Emissions Unit Number(s): F-Aux1, F-Aux 3, and F-Aux4: Auxiliary Boilers</u>** **F-Aux1, F-Aux 3, and F-Aux4** - Three (3) Auxiliary boilers, manufactured by CE-Alstom, used for start-up steam and space heating. Auxiliary boilers are fired with No.2 fuel oil and each have a maximum rating of 164 mmBtu/hr. **[4-0015, 4-0017 & 4-0018]**
3.1	**<u>Applicable Standards/Limits</u>:** A. <u>Control of Visible Emissions</u> **COMAR 26.11.09.05A (1) & (3)** – <u>Fuel Burning Equipment</u> "Areas I, II, V and VI. In Areas I, II, V and VI, 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 greater than 20 percent opacity. <u>Exceptions</u>. 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." B. <u>Control of Sulfur Oxides</u> **COMAR 26.11.09.07A(1)** - <u>Sulfur Content Limitations for Fuel</u>. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI: (a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3	
	premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour; (b) Residual fuel oils, 2.0 percent; **(c) Distillate fuel oils, 0.3 percent;** (d) Process gas used as fuel, 0.3 percent." C. Control of Nitrogen Oxides **COMAR 26.11.09.08G**. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. "(1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; (c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request; (d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request." **Note: COMAR 26.11.09.08B(5)(a)** states that "for the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation".
3.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Sulfur Oxides See Monitoring Requirements.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3	
	C. Control of Nitrogen Oxides The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the auxiliary boiler that operates more than 500 hours during a calendar year. [**Reference: COMAR 26.11.09.08G(1)(b)]**
3.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours of operation or at a minimum once per year. The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity: (a) inspect combustion control system and boiler operations, (b) perform all necessary adjustments and/or repairs to the boiler within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the auxiliary boiler. The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily for an 18 minute period until corrective action have reduce visible emissions to less than 20 percent opacity. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C].** C. Control of Nitrogen Oxides See Record Keeping Requirements.
3.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall maintain records of all visible emissions observations. **[Reference: COMAR 26.11.03.06C]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3	
	B. Control of Sulfur Oxides The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C].** C. Control of Nitrogen Oxides The Permittee shall maintain records of the results of the combustion analyses on site for at least five years and make them available to the Department and EPA upon request. **[Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]**. The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) & COMAR 26.11.03.06C]**.
3.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report exceedance of 20 percent opacity in accordance with Permit Condition 4,Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations" **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C].** C. Control of Nitrogen Oxides The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with support documentation in Annual Emissions certification Report. **[Reference: COMAR 26.11.03.06C].** The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C].**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
3a.0	**Emissions Unit Number(s): F-Aux2: Auxiliary Boilers Cont'd** **F-Aux2** - Auxiliary boiler No. 2 manufactured by CE-Alstom (Model #30VP21808R/48) is used for start-up steam and space heating. Auxiliary boiler No. 2 is fired with #2 fuel oil and has a maximum rating of 219.3 mmBtu/hr. [**4-0191**] **Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units** **§60.40b** - Applicability (a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour).
3a.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05A (1) & (3)** – Fuel Burning Equipment "Areas I, II, V and VI. In Areas I, II, V and VI, 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 greater than 20 percent opacity. 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." B. Control of Particulate Matter **§60.43b** – Standard for particulate matter. "(**f**) On and after the date on which the initial performance test is completed or is required to be completed under 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity." "(**g**) The particulate matter and opacity standards apply at all times, except during periods of startup, shutdown or malfunction."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	§60.46b – Compliance and performance test methods and procedures for particulate matter and nitrogen oxides "(a) The particulate matter emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction, and as specified in paragraphs (i) and (j) of this section. The nitrogen oxides emission standards under §60.44b apply at all times." C. Control of Sulfur Oxides **COMAR 26.11.09.07A(1)** - Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas I, II, V and VI: (a) The combustion of all solid fuels on a premises where the sum total maximum rated heat input of all fuel burning equipment located on the premises is 100 million Btu (106 gigajoules) per hour or greater may not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million Btu (1.50 kilograms per gigajoule) actual heat input per hour; (b) Residual fuel oils, 2.0 percent; **(c) Distillate fuel oils, 0.3 percent;** (d) Process gas used as fuel, 0.3 percent." **§60.42b** – Standard for sulfur dioxide. "(**d**) On and after the date on which the performance test is completed or required to be completed under §60.8 of this part, whichever comes first, no owner or operator of an affected facility listed in paragraph (d)(1), (2), or (3) of this section shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/million Btu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under this paragraph. (1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a Federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less; (2) Affected facilities located in a noncontinental area; or (3) Affected facilities combusting coal or oil, alone or in combination with any other fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of he heat input to the steam generating unit is from combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat input to the steam

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	generating unit is from the exhaust gases entering the duct burner." D. Control of Nitrogen Oxides **COMAR 26.11.09.08G**. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. (1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually; (c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request; (d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request." **Note: COMAR 26.11.09.08B(5)(a)** states that "for the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation". **§60.44b** – Standard for nitrogen oxides "(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance test for any affected facilities that: (1) Combust, alone or in combination only natural gas, **distillate oil**, or residual oil with a nitrogen content of 0.30 weight percent or less; (2) Have a combined annual capacity factor of 10 percent or less for natural gas, **distillate oil**, and residual oil with a nitrogen content of 0.30 weight percent or less and (3) Are subject to a Federally enforceable requirement limiting operation of the affected facility to firing of natural gas, **distillate oil**, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, **distillate oil** and residual oil and a nitrogen content of 0.30 weight percent

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a

or less."

E. Operational Limit:
[Reference: CPCN Case No. 8949, Condition III – Operating Requirements]
(1) Operation of the auxiliary boiler shall not exceed 182,458 mmBtu in any consecutive 12-month period.
(2) Emissions from the auxiliary boiler shall not exceed the rates in the following table:

Pollutant	Maximum Short term rates (lb/mmBtu)*	Maximum Emission Rate (tons per year)
NO_X	0.30	27
SO_2	0.50	40
PM10	0.10	15

* Emissions are in pounds per million Btu on a 24-hour average basis.

3a.2 **Testing Requirements:**

A. Control of Visible Emissions
See Monitoring Requirements.

B. Control of Particulate Matter:
§60.46b – Compliance and performance test methods and procedures for **particulate matter** and nitrogen oxides
"(b) Compliance with the particulate matter emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) and (j)."

C. Control of Sulfur Oxides:
§60.45b – Compliance and performance test methods and procedures for sulfur dioxide.
"(**a**) The sulfur dioxide emission standards under §60.42b apply at all times."
"(**j**) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described §60.49b(r)."

D. Control of Nitrogen Oxides
The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the auxiliary boiler that operates more than 500 hours during a calendar year. [**Reference:**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	COMAR 26.11.09.08G(1)(b)]. **§60.46b** – Compliance and performance test methods and procedures for particulate matter and **nitrogen oxides** "(b) Compliance with the particulate matter emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) and (j)." E. Operational Limit: Compliance stack testing of the auxiliary boiler shall be conducted within 180 days of initial start-up to quantify pollutant emissions and demonstrate compliance with the emissions limits specified in Condition III.2 for the following air contaminants: nitrogen oxides ("NO_X") and particulate matter less than 10 microns in diameter ("PM_{10}"). [**Reference: CPCN Case No. 8949, Condition IV (1)].** *Completed* At least 30 days prior to conducting any compliance stack test, the Permittee shall submit a test protocol to ARMA for review. Compliance stack testing shall be conducted in accordance with ARMA Technical Memorandum ("TM") 91-01, "Test Methods and Equipment Specifications for Stationary Sources" (January, 1991), as amended by Supplement 1 (1 July 1991), 40 CFR 51, 40 CFR 60, or subsequent test protocols approved by ARMA. Test ports shall be located in accordance with TM 91-01 (January 1991), or subsequent or alternative measures approved by ARMA. "). [**Reference: CPCN Case No. 8949, Condition IV (2)].** *Completed* Testing shall be performed when operating at a minimum of 90 percent of the design load. If testing cannot be performed at the minimum load, then the actual load during testing shall become the allowable permitted load unless and until testing is performed while operating at a minimum of 90 percent of the design load. "). [**Reference: CPCN Case No. 8949, Condition IV (3)].** *Completed* In accordance with COMAR 26.11.01.04A, NRG may be required to conduct additional stack tests at any time as may be prescribed by ARMA. [**Reference: CPCN Case No. 8949, Condition IV (4)]** Final results of each compliance stack test must be submitted to ARMA within 60 days of completion of the test. Analytical data shall be submitted to ARMA directly from the emission testing company. . [**Reference: CPCN Case No. 8949, Condition IV (5)].** *Completed*

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
3a.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall verify that visible emissions are less than 20 percent opacity. An observer shall perform an EPA Reference Method 9 observation of stack emissions for 18-minute period once every 168 hours of operation or at a minimum once per year. The Permittee shall perform the following, if emissions are visible to human observer in excess of 20 percent opacity: (a) inspect combustion control system and boiler operations, (b) perform all necessary adjustments and/or repairs to the boiler within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the auxiliary boiler. The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily for an 18 minute period until corrective action have reduce visible emissions to less than 20 percent opacity. **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter: **§60.48b -** Emission monitoring for **particulate matter** and nitrogen oxides. (j) Units that burn only oil that contains no more than 0.3 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less **are not required to conduct PM emissions monitoring** if they maintain fuel supplier certifications of the sulfur content of the fuels burned. C. Control of Sulfur Oxides The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C].** **§60.47b** – Emission monitoring for sulfur dioxide "(**f**) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the emission monitoring requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r)."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	D. Control of Nitrogen Oxides See Record Keeping Requirements. **§60.48b** – Emission monitoring for particulate matter and **nitrogen oxides**. (i)"The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) is not required to install or operate a continuous monitoring system for measuring nitrogen oxides emissions." §60.13(i) – "After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following: (2) Alternative monitoring requirements when the affected facility is infrequently operated." E. Operational Limit The Permittee shall calculate the monthly mmBtu over the previous 12-month period for the auxiliary boiler to maintain compliance with the 182,458-mmBtu limit. **[Reference: COMAR 26.11.03.06C]**
3a.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall maintain records of all visible emissions observations. **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter See Monitoring Requirements. C. Control of Sulfur Oxides The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C].** **§60.49b –** Reporting and recordkeeping requirements "(r) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the reporting period." D. Control of Nitrogen Oxides The Permittee shall maintain records of the results of the combustion analyses and any stack tests on site for at least five years and make them available to the Department and EPA upon request. **[Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]**. The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) & COMAR 26.11.03.06C]**. E. Operational Limit The Permittee shall maintain records of the higher heating value of each shipment of fuel. **[Reference: CPCN Case No. 8949, Condition V (1)]**
3a.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report exceedance of 20 percent opacity in accordance with Permit Condition 4,Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations" B. Control of Particulate Matter. See Monitoring Requirements C. Control of Sulfur Oxides The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C].** D. Control of Nitrogen Oxides The Permittee shall provide certification of the annual capacity factor of the equipment to the Department with the support documentation in the Annual Emission Certification Report. **[Reference: COMAR 26.11.03.06C].** The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C].**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	§60.49b - Reporting and record keeping requirements. (v) The owner or operator of an affected facility may submit electronic quarterly reports for SO_2 and/or NO_X and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format. (w) The reporting period for the reports required under this subpart is each 6-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period. E. Operational Limit **§60.49b** – Reporting and record keeping requirements. "(**a**) The owner or operator of each affected facility shall submit notification of the date of initial startup as provided by §60.7." *Completed* "(**d**) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month." "(**f**) For facilities subject to the opacity standard under §60.43b, the owner or operator shall maintain records of opacity." "(**h**) The owner or operator of any affected facility in any category listed in paragraphs (h) (1) or (2) of this section is required to submit excess emissions reports for any excess emissions which occurred during the reporting period." "(**j**) The owner or operator of any affected facility subject to the sulfur dioxide standards under §60.42b shall submit reports." "(**o**) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record." "(**r**) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3a	
	§60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the reporting period." "(**w**) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period."

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 3b – MACT Subpart DDDDD	
3b.0	**<u>Emissions Unit Number(s): F-Aux1, F-Aux2 F-Aux 3, and F-Aux4: Auxiliary Boilers Cont'd</u>** **F-Aux1, F-Aux 3, and F-Aux4** - Three (3) Auxiliary boilers, manufactured by CE-Alstom, used for start-up steam and space heating. Auxiliary boilers are fired with #2 fuel oil and each have a maximum rating of 164 mmBtu/hr. **[4-0015, 4-0017 & 4-0018]** **F-Aux2** - Auxiliary boiler No. 2 manufactured by CE-Alstom (Model #30VP21808R/48) is used for start-up steam and space heating. Auxiliary boiler No. 2 is fired with #2 fuel oil and has a maximum rating of 219.3 mmBtu/hr. [**4-0191**]
3b.1	**<u>Applicable Standards/Limits</u>:** <u>Control of HAPs Emissions</u> **40 CFR Part 63, Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters** **§63.7485 -** <u>Am I subject to this subpart?</u> You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP, except as specified in §63.7491. For purposes of this subpart, a major source of HAP is as defined in §63.2, except that for oil and natural gas production facilities, a

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD

major source of HAP is as defined in §63.7575.

§63.7495 - When do I have to comply with this subpart?
"(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by January 31, 2013, or upon startup of your boiler or process heater, whichever is later.
(b) If you have an **existing boiler** or process heater, you must comply with this subpart no later than **January 31, 2016**, except as provided in §63.6(i)."
"(d) You must meet the notification requirements in §63.7545 according to the schedule in §63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart."
"(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 to this subpart."

§63.7500 - What emission limitations, work practice standards, and operating limits must I meet?
"(c) Limited-use boilers and process heaters must complete a tune-up every 5 years as specified in §63.7540. They are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, the annual tune-up, or the energy assessment requirements in Table 3 to this subpart, or the operating limits in Table 4 to this subpart."
"(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 to this subpart."

Table 3 to Subpart DDDDD of Part 63—Work Practice Standards
As stated in §63.7500, you must comply with the following applicable work practice standards:

If your unit is . . .	You must meet the following . . .
1. A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or **a limited use boiler** or process heater	Conduct a tune-up of the boiler or process heater every 5 years as specified in §63.7540.

Limited-use boiler *or process heater* means any boiler or process heater that burns any amount of solid, liquid, or gaseous fuels and has a federally enforceable average annual capacity factor of no more than 10 percent. [§63.7575]

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	General Compliance Requirements **§63.7505 -** What are my general requirements for complying with this subpart? "(a) You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These limits apply to you at all times the affected unit is operating except for the periods noted in §63.7500(f)." Operational Limits: **[Reference: §63.12]** **F-Aux1, F-Aux 3, and F-Aux4:** Auxiliary Boilers 1, 3, & 4 operations shall be limited to an annual capacity factor of 10 percent or less or an annual heat input of not greater than 143,664 million Btu. **F-Aux2:** Auxiliary Boiler 2 operation shall be limited to an annual capacity factor of 10 percent or less or an annual heat input of not greater than 182,458 million Btu. These units shall be defined as limit use boilers as defined in §63.7500(c) & §63.7575.
3b.2	**Testing Requirements:** Control of HAPs Emissions See Monitoring Requirements.
3b.3	**Monitoring Requirements:** Control of HAPs Emissions **Continuous Compliance Requirements** **§63.7540 -** How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards? "(a) You must demonstrate continuous compliance with each emission limit in Tables 1 and 2 or 11 through 13 to this subpart, the work practice standards in Table 3 to this subpart, and the operating limits in Table 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (19) of this section." "(10) If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. This frequency does not apply to limited-use boilers and process heaters, as defined in §63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	(i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment; (ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available; (iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection; (iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; (v) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and (vi) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section, (A) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater; (B) A description of any corrective actions taken as a part of the tune-up; and (C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit." "(12) If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or **meets the definition of limited-use**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	boiler or process heater in §63.7575, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months." "(13) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup."
3b.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** Control of HAPs Emissions **Notification, Reports, and Records** **§63.7555 -** What records must I keep? "(a) You must keep records according to paragraphs (a)(1) and (2) of this section. (1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv). (2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii)." **§63.7560 -** In what form and how long must I keep my records? "(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). (b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. (c) You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
3b.5	**Reporting Requirements:** Control of HAPs Emissions **Notification, Reports, and Records** **§63.7545 -** What notifications must I submit and when? "(a) You must submit to the Administrator all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified. (b) As specified in §63.9(b)(2), if you startup your affected source before January 31, 2013, **you must submit an Initial Notification not later than 120 days after January 31, 2013.** *Completed* (c) As specified in §63.9(b)(4) and (5), if you startup your new or reconstructed affected source on or after January 31, 2013, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source. (d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin. (e) If you are required to conduct an initial compliance demonstration as specified in §63.7530, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to §63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8), as applicable. If you are not required to conduct an initial compliance demonstration as specified in §63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8)." **§63.7550 -** What reports must I submit and when? "(a) You must submit each report in Table 9 to this subpart that applies to you. (b) Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report, according to paragraph (h) of this section, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or operating limits,

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report. (1) The first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on July 31 or January 31, whichever date is the first date that occurs at least 180 days (or 1, 2, or 5 years, as applicable, if submitting an annual, biennial, or 5-year compliance report) after the compliance date that is specified for your source in §63.7495. (2) The first compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in §63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31. (3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31. (4) Each subsequent compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31. (c) A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule. (1) If the facility is subject to a the requirements of a tune up they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv) and (xiv) of this section. (2) If a facility is complying with the fuel analysis they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv), (vi), (x), (xi), (xiii), (xv) and paragraph (d) of this section. (3) If a facility is complying with the applicable emissions limit with performance testing they must submit a compliance report with the information in (c)(5)(i) through (iv), (vi), (vii), (ix), (xi), (xiii), (xv) and paragraph (d) of this section. (4) If a facility is complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (vi), (xi), (xiii), (xv) through (xvii), and paragraph (e) of this section.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	(5)(i) Company and Facility name and address. (ii) Process unit information, emissions limitations, and operating parameter limitations. (iii) Date of report and beginning and ending dates of the reporting period. (iv) The total operating time during the reporting period. (v) If you use a CMS, including CEMS, COMS, or CPMS, you must include the monitoring equipment manufacturer(s) and model numbers and the date of the last CMS certification or audit. (vi) The total fuel use by each individual boiler or process heater subject to an emission limit within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure. (vii) If you are conducting performance tests once every 3 years consistent with §63.7515(b) or (c), the date of the last 2 performance tests and a statement as to whether there have been any operational changes since the last performance test that could increase emissions. (viii) A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, you must submit the calculation of chlorine input, using Equation 7 of §63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 12 of §63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of §63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 13 of §63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of §63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	rate, using Equation 14 of §63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). (ix) If you wish to burn a new type of fuel in an individual boiler or process heater subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of §63.7530 or the maximum mercury input operating limit using Equation 8 of §63.7530, or the maximum TSM input operating limit using Equation 9 of §63.7530 you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel. (x) A summary of any monthly fuel analyses conducted to demonstrate compliance according to §§63.7521 and 63.7530 for individual boilers or process heaters subject to emission limits, and any fuel specification analyses conducted according to §§63.7521(f) and 63.7530(g). (xi) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period. (xii) If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in §63.8(c)(7), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period. (xiii) If a malfunction occurred during the reporting period, the report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with §63.7500(a)(3), including actions taken to correct the malfunction. (xiv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown. (xv) If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent than the level or control technology contained in the notification of compliance status in §63.7545(e)(5)(i). (xvi) For each reporting period, the compliance reports must include all of

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	the calculated 30 day rolling average values based on the daily CEMS (CO and mercury) and CPMS (PM CPMS output, scrubber pH, scrubber liquid flow rate, scrubber pressure drop) data. (xvii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. (d) For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section. (1) A description of the deviation and which emission limit or operating limit from which you deviated. (2) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken. (3) If the deviation occurred during an annual performance test, provide the date the annual performance test was completed. (e) For each deviation from an emission limit, operating limit, and monitoring requirement in this subpart occurring at an individual boiler or process heater where you are using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (e)(1) through (9) of this section. This includes any deviations from your site-specific monitoring plan as required in §63.7505(d). (1) The date and time that each deviation started and stopped and description of the nature of the deviation (i.e., what you deviated from). (2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks. (3) The date, time, and duration that each CMS was out of control, including the information in §63.8(c)(8). (4) The date and time that each deviation started and stopped. (5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period. (6) A characterization of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes. (7) A summary of the total duration of CMS's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period. (8) A brief description of the source for which there was a deviation. (9) A description of any changes in CMSs, processes, or controls since the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 3b – MACT Subpart DDDDD	
	last reporting period for the source for which there was a deviation. (f)-(g) [Reserved] (h) You must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this section. (1) Within 60 days after the date of completing each performance test (defined in §63.2) as required by this subpart you must submit the results of the performance tests, including any associated fuel analyses, required by this subpart and the compliance reports required in §63.7550(b) to the EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of the EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to the EPA via CDX as described earlier in this paragraph. At the discretion of the Administrator, you must also submit these reports, including the confidential business information, to the Administrator in the format specified by the Administrator. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator. (2) Within 60 days after the date of completing each CEMS performance evaluation test (defined in 63.2) you must submit the relative accuracy test audit (RATA) data to the EPA's Central Data Exchange by using CEDRI as mentioned in paragraph (h)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator. (3) You must submit all reports required by Table 9 of this subpart electronically using CEDRI that is accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form

Table IV – 3b – MACT Subpart DDDDD	
	specific to this subpart is not available in CEDRI at the time that the report is due the report you must submit the report to the Administrator at the appropriate address listed in § 63.13. At the discretion of the Administrator, you must also submit these reports, to the Administrator in the format specified by the Administrator."

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 4	
4.0	**<u>Emissions Unit Number(s): Coal Barge Unloader</u>** The barge loading facility consists of a dock, barge unloader, a transfer and distribution system and a railcar loading facility. The barge unloader system is sized to unload up to 5.0 million tons of coal per year. The barge unloader's transfer and distribution system is integrated into Morgantown's existing coal handling system. (**6-0138, (CPCN 9031)**)
4.1	**<u>Applicable Standards/Limits</u>:** A. <u>Control of Visible Emissions</u> New Source Performance Standards (NSPS) 40 CFR 60 Subpart Y—Standards of Performance for Coal Preparation Plant (**40 CFR §60.250**) (and the associated notification and testing requirements of 40 CFR §60.7, §60.8 and §60.11) which requirements include: (a) NRG shall not cause to be discharged into the atmosphere gases from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system being constructed or modified by the Barge Unloading project which exhibit 20 percent opacity or greater (under 40 CFR §60.252(c)). Specifically, equipment that makes up the modified facilities includes: (1) Mechanical barge unloader; (2) Four conveyor transfer points; (3) Transfer point to rail car loading station; (4) Railcar loading station; and (5) Breaker building. (b) The opacity standards shall apply at all times except during periods of startup, shutdown, or malfunction; (c) At all times, including during periods of startup, shutdown and malfunction, NRG shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. **[Reference: CPCN 9031, condition 10]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 4	
	B. Control of Particulate Matter **COMAR 26.11.06.03D**. - Particulate Matter from Materials Handling and Construction. Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For the coal piles, unloading, transfer, and loading operation at NRG's Coal Barge Unloading Project, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer: (1) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces, which can create airborne dusts. (2) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. (3) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution **[Reference: CPCN 9031, condition 9c]**
4.2	**Testing Requirements:** A. Control of Visible Emissions Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the coal barge unloading project, NRG shall conduct performance tests in accordance with the methods in NRG's ARMA-approved Performance Test Plan and furnished ARMA and EPA with a written report of the results of such performance test(s). **[Reference: CPCN 9031, condition 14].** ***(Completed)*** B. Control of Particulate Matter See Monitoring Requirements.
4.3	**Monitoring Requirements:** A. Control of Visible Emissions NRG shall perform a monthly inspection of the coal unloading and handling operations to verify that the reasonable precautions (BMPs) in Condition 12 of the CPCN are being implemented. Visible emission or deviations identified during the inspections shall be promptly corrected. [**Reference: CPCN 9031, condition 15]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 4

B. Control of Particulate Matter

NRG shall maintain and operate the following barge unloading equipment and its associated particulate matter control mechanisms with the potential to cause air pollution in accordance with original design criteria, vendor recommendations, and best management practices and in such a manner as to ensure full and continuous compliance with all applicable regulations:

Equipment	Control Mechanism
Barge Unloader	Telescoping Unloader
Conveyors	Covers or Enclosures
Transfer Towers	Enclosure
Railcar Transfer Point and Load out Station	Partial Enclosure

[**Reference: CPCN 9031, condition 12a]**

NRG shall develop a coal handling best management practices (BMP) Plan for the coal barge unloader, associated conveyor system and railcar load out station to ensure that reasonable precautions will be used to prevent particulate matter from the coal barge unloading project equipment from becoming airborne. BMP's shall include, but are not limited to minimizing the area of permanent openings, using curtains at permanent openings, where feasible, and keeping doorways or other temporary openings closed when not in use. **[Reference: CPCN 9031, condition 12b]**

4.4 **Record Keeping Requirements:**

Note: All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]**

A. Control of Visible Emissions

NRG shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the coal unloading and handling facilities and any malfunction of its associated air pollution control equipment (40CFR 60.7(b). [**Reference: CPCN 9031, condition 18]**

B. Control of Particulate Matter

NRG shall maintain the written reasonable precautions (BMPs) at the facility. [**Reference: CPCN 9031, condition 16]**

NRG shall keep written records of monthly inspections and maintenance performed under Condition 12 of the CPCN for the purposes of minimizing particulate matter emissions. Records shall include descriptions of the results of the inspection and maintenance, and any deviations and actions

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 4	
	taken to address any noted deviations. [**Reference: CPCN 9031, condition 17]** All records and logs required by this CPCN shall be maintained at the facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of ARMA. [**Reference: CPCN 9031, condition 20]**
4.5	**Reporting Requirements:** A. Control of Visible Emissions Within 60 days of the initial startup date, NRG shall provide ARMA a Performance Test Plan that describes the proposed method for conducting the initial performance test that will demonstrate compliance with 40 CFR 60.252 opacity standard for the affected facilities. The Test Plan shall comply with the requirements of §60.8 and §60.11, as they relate to performing opacity observations. [**Reference: CPCN 9031, condition 13]** ***(Completed)*** All notifications and reports required by 40 CFR 60 and Subpart Y, unless specified otherwise, shall be submitted to: Regional Administrator US Environmental Protection Agency Region III 1650 Arch Street Philadelphia, Pennsylvania 19103-2029 [**Reference: CPCN 9031, condition 22]** NRG shall furnish written notification to ARMA and US EPA of the following events: a) The date constructions is commenced postmarked no later than 30 days after such date; ***(Completed)*** b) The anticipated startup date, not more than 60 or less than 30 days prior to such date; ***(Completed)*** c) The actual date of initial startup postmarked with in 15 days after such date; ***(Completed)*** d) Notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applied postmarked 60 days or as soon as practicable before the change has commenced; and e) The anticipated date for conducting the initial opacity observations (performance tests) postmarked not less than 30 days prior to such date. ***(Completed)***

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 4	
	[Reference: CPCN 9031, condition 19] B. Control of Particulate Matter Written records of monthly inspections and maintenance performed under Condition 12 of the CPCN for the purposes of minimizing particulate matter emissions shall be made available to the Department upon request. **[Reference: COMAR 26.11.06.06C**] All air quality notifications and reports required by this CPCN shall be submitted to: Administrator, Compliance Program Air and Radiation Management Administration 1800 Washington Boulevard Baltimore, Maryland 21230 **[Reference: CPCN 9031, condition 21]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 5	
5.0	**Emissions Unit Number(s): Coal Blending System & Gypsum Barge Loading System** The coal blending system is designed to blend various coals with different characteristics to match the specification of the Morgantown's boilers and air quality control equipment. The coal blending system consists of the following subsystems: new stack-out facilities in the south coal yard; underground reclaim facilities in existing south and north coal yards; reclaim transfer point to integrate the reclaim from the north and south coal yards; refurbished and upgraded emergency reclaim; and enclosed transfer station with dust suppression system.**[(017-0014-6-0154), (CPCN 9148)]** The Gypsum Barge Loading System is to convey and load gypsum produced by both the Chalk Point and Morgantown SO_2 FGD systems. The Gypsum Barge Loading System consists of the following subsystems: 1000-tph conveyor system; five transfer towers, one pier tripper conveyor, one telescoping barge load-out conveyor and rail unloading hopper and conveyor for chalk Point gypsum transfer**.[(017-0014-6-0153),(CPCN 9148)]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 5	
5.1	**Applicable Standards/Limits:** Control of Particulate Matter **COMAR 26.11.06.03D**. - Particulate Matter from Materials Handling and Construction. Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For activities associated with NRG's Coal Blending/Gypsum Load out Project, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer: (1) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land; (2) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces, which can create airborne dusts. (3) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. (4) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution **[Reference: CPCN 9148, condition 11]**
5.2	**Testing Requirements:** Control of Particulate Matter See Monitoring Requirements.
5.3	**Monitoring Requirements:** Control of Particulate Matter NRG shall update Morgantown's Best Management Practices (BMP) Plan as required by the facility's Part 70 Operating Permit (Permit No. 24-017-00014), to include the equipment and material handling processes associated with the Project. The Plan shall document what reasonable precautions will be used to prevent particulate matter from project equipment and material handling processes from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. MDE-ARMA shall approve the BMP Plan prior to implementation. **[Reference: CPCN 9148, condition 14].** ***(Completed)***

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 5	
5.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** Control of Particulate Matter NRG shall maintain the written records of inspections, testing and monitoring results, and maintenance performed on Project emissions sources for the purposes of minimizing particulate matter emissions and demonstrating that coal blending/gypsum load out operations are meeting the approved BMP Plan. Records shall include description of the result of any inspection and maintenance. [**Reference: CPCN 9148, condition 15]** All records and logs required by CPCN 9148 shall be maintained at the facility for at least five years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of MDE-ARMA. [**Reference: CPCN 9148, condition 17]**
5.5	**Reporting Requirements:** Control of Particulate Matter Written records of inspections and maintenance performed under Condition 14 of the CPCN for the purposes of minimizing particulate matter emissions shall be made available to the Department upon request. **[Reference: COMAR 26.11.06.06C**] All air quality notifications and reports required by this CPCN shall be submitted to: Administrator, Compliance Program Air and Radiation Management Administration 1800 Washington Boulevard Baltimore, Maryland 21230 **[Reference: CPCN 9148, condition 18]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
6.0	**Emissions Unit Number(s): STAR** The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization (FGD) scrubber system. Exhaust gases are directed through a 125 foot stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems. (**6-0150 (CPCN 9229)**)
6.1	**Applicable Standards/Limits:** **[Reference: CPCN 9229 – Emissions and Operational Requirements]** A. Control of Visible Emissions A-7(c) *Visible Emission from General Sources.* – Prohibits NRG from causing or permitting the discharge of emissions from any installation or building, other than water in an uncombined form, which is greater than 20 percent opacity [COMAR 26.11.06.02C]. B. Control of Particulate Matter Emissions A-7(d) *Particulate Matter from Confined Sources*. – Prohibits NRG from causing or permitting the discharge into the outdoor atmosphere from any confined source of particulate matter in excess of 0.05 grains per dry standard cubic feet (gr/dscf) or 114 milligrams per dry standard cubic meter (mg/dscm) [COMAR 26.11.06.03B]. A-7(e) *Particulate Matter from Unconfined Sources*. – Prohibits NRG from causing or permitting the discharge of emissions from an unconfined source without taking reasonable precautions to prevent particulate matter from becoming airborne [COMAR 26.11.06.03C]. A-7(f) *Particulate Matter from Materials Handling and Construction*. – Prohibits NRG from causing or permitting any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. For the unloading, loading and transfer of the materials included at the Morgantown STAR Facility, these reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6

control officer:
(1) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land.
(2) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts.
(3) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations.
(4) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution [COMAR 26.11.06.03D].

C. Control of Sulfur Oxides Emissions

A-7(g) *Sulfur Dioxide Emissions from General Sources*. – Prohibits NRG from causing or permitting the discharge of emissions in the atmosphere gases containing more than 500 ppm of SO_2 during any 24-hour block average of hourly arithmetic CEMS concentrations [COMAR 26.11.06.05B(1)]

A-7(h) *Sulfuric Acid Emissions from General Sources*. - Prohibits NRG from causing or permitting the discharge of emissions in the atmosphere gases containing sulfuric acid, sulfur trioxide, or any combination of them greater than 35 milligrams per cubic meter of emissions of gases reported as sulfuric acid [COMAR 26.11.06.05B(2)]

D. Control of VOC Emissions

A-7(i) *VOC Emissions from General Sources*. – Prohibits NRG from causing or permitting the discharge of VOC emissions from any installation in excess of 20 lb/day unless the discharge is reduced by 85 percent or more overall [COMAR 26.11.06.06B(2)(c)].

E. Operational Limits

A-8. Annual emissions from the Morgantown STAR Facility shall be less than the following in any consecutive 12-month period, rolling monthly, inclusive of emissions during periods of startup, shutdown and malfunction:

Pollutant	**Emissions Limit for Entire Morgantown STAR Facility (Tons per year)**
Sulfur Dioxide (SO_2)	40
Nitrogen Oxides (NO_X)	25
Carbon Monoxide (CO)	100
SO_2 or NO_X as a Particulate Matter	40

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6

less than 2.5 microns ($PM_{2.5}$) precursor	

These federally enforceable limits are necessary for the Morgantown STAR Facility project to avoid triggering major modification requirements under Nonattainment New Source Review (NA-NSR) and Prevention of Significant Deterioration (PSD).

A-9. NRG shall install, maintain, and operate the Morgantown STAR Facility equipment inclusive of the fabric filter baghouse and wet FGD scrubber system air pollution control technologies, in accordance with the original design criteria, vendor recommendations and best management practices, and in such a manner to ensure full and continuous compliance with all applicable requirements. The baghouse and wet FGD scrubber shall be in place and operational whenever the STAR process reactor is running [COMAR 26.11.02.02H].

A-10. NRG is only permitted to process fly ash at the STAR Facility obtained from Morgantown, Chalk Point, and Dickerson Generating Stations [COMAR 26.11.02.02H].

A-11. The Morgantown STAR Facility shall not exceed an annual throughput of 360,000 tons of fly ash in any consecutive 12-month period, rolling monthly [COMAR 26.11.02.02H].

A-12. NRG is only permitted to use propane as an auxiliary fuel [COMAR 26.11.02.02H].

6.2 **Testing Requirements:**

A. Control of Visible Emissions

The Permittee shall conduct visible emission observations using EPA Method 9 during the annual stack testing of stationary sources**. [Reference: CPCN 9229, condition A-16(c)]**

B. Control of Particulate Matter Emissions

From Confined Source: The Permittee shall perform annual stack testing to demonstrate compliance with PM emission limit in the exhaust gases of the stack of the stationary sources. **[Reference: COMAR 26.11.03.06C]**
From Unconfined Source: See Monitoring Requirements.

C. Control of Sulfur Oxides Emissions

See Operational Limits.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	D. Control of VOC Emissions See Record Keeping Requirements. E. Operational Limits See Monitoring Requirements.
6.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall visually inspect the exhaust gases from baghouse for visible emissions once a month for an 18-minute period and shall record the results of each observation. If visible emissions are observed, the Permittee shall perform the following: (a) Inspect all process and/or control equipment that may affect visible emissions; (b) Perform all necessary repairs and/or adjustments to all processes and/or control equipment within 48 hours so that visible emissions in the exhaust gases are eliminated; (c) Document in writing the results if the inspections and the repairs and/or adjustments made to the processes and/or control equipment; and (d) If visible emissions have not been eliminated within 48 hours, the Permittee shall perform a Method 9 observation once daily for an 18-minute period until the opacity standard of 20 percent is achieved. [**Reference: COMAR 26.11.03.06C**]. B. Control of Particulate Matter Emissions *From Confined Source:* The Permittee shall develop and implement a preventive maintenance plan for the baghouse that describes the maintenance activity and time schedule for completing each activity. The Permittee shall perform maintenance activities within the timeframes established in the plan and maintain a log with records of the dates that maintenance was performed. [**Reference: COMAR 26.11.03.06C**]. *From Unconfined Source:* **[Reference: CPCN 9229 – Best Management Practice Requirements]** A-33. NRG shall update Morgantown's Best Management Practices (BMP) Plan as required by the facility's Part 70 Operating Permit (Permit No. 24-017-00014), to include the STAR Facility ash beneficiation process and associated control equipment and material handling processes associated with the project. The Plan shall document what reasonable precautions will be used to prevent PM from project equipment and material handling processes from becoming airborne. The Plan shall include a description of the types and frequency of inspections and/or preventative maintenance that will be conducted. In addition, NRG shall define the associated records

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	that will be maintained to document that inspections and preventative maintenance have been conducted as proposed. MDE-ARMA shall approve the BMP Plan prior to implementation [COMAR 26.11.02.02H]. *Completed* C. Control of Sulfur Oxides Emissions See Operational Limits. D. Control of VOC Emissions See Best Management Plan Requirements listed under Control of Particulate Emissions. E. Operational Limits **[Reference: CPCN 9229 – Testing and Monitoring Requirements]** A-13. To demonstrate continuous compliance with the federally enforceable emissions limits set forth in Condition A-8, NRG shall install, maintain, and operate a continuous emissions monitoring system (CEMS) for SO_2, NO_X, CO and CO_2 or O_2 for emissions from the STAR process reactor through the exhaust stack in accordance with a CEMS Monitoring Plan approved by MDE-ARMA [COMAR 26.11.02.02H]. A-14. In accordance with operation of the CEMS, the Morgantown STAR Facility is subject to the following requirements: a) Except as otherwise approved by the MDE-ARMA, if NRG is unable to obtain emissions data from CEMS because of a malfunction of the CEMS for more than 2 hours in duration, NRG shall use the alternative measurement method approved by MDE-ARMA; b) The CEMS shall meet the quality assurance criteria of 40 CFR Part 60, Appendix F, as amended, which is incorporated by reference, or if applicable, the quality assurance criteria of 40 CFR 75, Appendix B, as amended; c) Mass emission rates of NO_X, SO_2 and CO in pounds per hour (lb/hr), and heat input in million Btu per hour (MMBtu/hr) or million Btu per day (MMBtu/day) shall be calculated using the equations and emissions factors presented in 40 CFR Part 75, Appendix F; d) As part of the emission calculation determination using 40 CFR Part 75, Appendix F, NRG shall obtain a site-specific F-factor (representing a ratio of volume of dry flue gases generated to the calorific value of the fuel combusted or a ratio of the volume of CO_2 generated to the calorific value of the fuel combusted). The site-specific F-factor shall be determined annually in accordance with the methodology on 40 CFR Part 75, Appendix F. e) The CEMS shall record not less than four equally spaced data points

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	per hour and automatically reduce data in terms of averaging times consistent with the applicable emission standard; and f) The use of CEMS for enforcement purposes shall be as specified in MDE-ARMA's Technical Memorandum 90-01 "Continuous Emissions Monitoring (CEMS) Policies and Procedures," which is incorporated by reference [COMAR 26.11.02.02H]
6.4	**Record Keeping Requirements:** A. Control of Visible Emissions The Permittee shall maintain on site for at least five (5) years records of the visible emission observations completed during the annual stack testing of the stationary sources. **[Reference: CPCN 9229 condition A-31]** B. Control of Particulate Matter Emissions *From Confined Source:* The Permittee shall maintain a copy of the preventative maintenance plan and a record of the dates of and description of maintenance activity performed. The Permittee shall keep records of baghouse malfunctions and the corrective actions taken to bring it into proper operation. **[Reference: COMAR 26.11.03.06C]** *From Unconfined Source:* **[Reference: CPCN 9229 – Best Management Practice Requirements]** A-34. NRG shall keep written records of inspections, testing and monitoring results and maintenance performed on the Morgantown STAR Facility emissions sources for the purpose of minimizing PM emissions and demonstrating that the project operations are meeting the approved BMP Plan. Records shall include descriptions of the result of any inspection and maintenance [COMAR 26.11.02.02H]. C. Control of Sulfur Oxides Emissions See Operational Limits D. Control of VOC Emissions See Best Management Plan Requirements listed under Control of Particulate Emissions. E. Operational Limits **[Reference: CPCN 9229 – Testing and Monitoring Requirements]** A-18. NRG shall maintain a log of maintenance performed on the STAR process baghouse and wet FGD scrubber. The log of maintenance performed shall include record of dates, a description of the maintenance activity performed, a description of the reason for the maintenance activity (e.g. specific failure, routine) and other corrective actions taken to bring the

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	control equipment into proper operation, if necessary. NRG shall make maintenance records available to MDE-ARMA upon request [COMAR 26.11.02.02H] A-19. NRG shall maintain a record of the STAR Facility fly ash and propane gas monthly throughput and annual throughput based on consecutive 12-month period, rolling monthly. NRG shall make such records available to MDE-ARMA upon request. Fly ash throughput records shall indicate the original source and date of receipt of the fly ash [COMAR 26.11.02.02H]. A-20. NRG shall maintain fuel usage, pollutant concentrations, volumetric flow rates, and any other records necessary to determine the STAR Facility SO_2, NO_X, and CO actual emissions. Emission shall be calculated monthly and annually based on a consecutive 12-month period, rolling monthly for comparison with the annual emission limits in Condition A-8 [COMAR 26.11.02.02H]. A-21. NRG shall maintain on file the following information related to the CEMS and make such records available to MDE-ARMA upon request: (a) CEMS or monitoring device performance testing measurements, including but not limited to volumetric flow rates, concentrations, and fuel emissions factors; (b) CEMS performance evaluations and data accuracy audit reports; (c) CEMS calibration checks; (d) Adjustments and maintenance performed on the CEMS; (e) Fuel sampling records required for CEMS calculations; and (f) All other data relevant to maintaining compliance with the emissions limits [COMAR 26.11.02.02H]
6.5	**<u>Reporting Requirements</u>:** A. <u>Control of Visible Emissions</u> The Permittee shall submit to the Department within 60 days after completion of the stack test the results of the visible emission observations taken during the annual stack testing of the stationary sources. **[Reference: CPCN 9229 condition A-26]** B. <u>Control of Particulate Matter Emissions</u> *From Confined Source:* The Permittee shall submit the maintenance plan and record of the maintenance activities to the Department upon request. **[Reference: COMAR 26.11.03.06C]** *From Unconfined Source:* The Permittee shall make available to the Department upon request records of the result of any inspection and maintenance activity performed. **[Reference: COMAR 26.11.03.06C]**

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	C. Control of Sulfur Oxides Emissions See Operational Limits. D. Control of VOC Emissions See Best Management Plan Requirements listed under Control of Particulate Emissions. E. Operational Limits **[Reference: CPCN 9229 – Testing and Monitoring Requirements]** A-27. NRG shall submit a quarterly monitoring report to MDE-ARMA, postmarked by the 30th day following the end of each calendar quarter that includes the following information for the STAR Facility: (a) All instances of deviations from permit requirements; (b) Separately the date, time and duration of each startup, shutdown and malfunction that occurred at the STAR Facility including, but not limited to the ash beneficiation process and associated air pollution control systems. The report shall include total monthly and consecutive 12-month total hours of startup, shutdown and malfunction of the STAR Facility equipment; (c) The downtime or malfunction of the CEMS equipment. The report shall include the date and time of each period during which the CEMS was inoperative and the nature of monitoring system repairs or adjustments completed; (d) The STAR Facility monthly hours of operations and annual hours of operation based on a consecutive 12-month period, rolling monthly; (e) The propane gas monthly usage and annual usage based on a consecutive 12-month period, rolling monthly; and (f) The annual emissions of SO_2, NO_X and CO for the STAR Facility based on a consecutive 12-motnh period, rolling monthly. An algorithm, including example calculations and emission factors, explaining the method used to determine emission rates shall be included in the initial quarterly monitoring report. Subsequent submittals of the algorithm and sample calculations are only required if NRG changes the method of calculating emissions or changes emissions factors, or if requested by MDE-ARMA [COMAR 26.11.02.02H]. A-28. NRG shall comply with the following conditions for occurrences of excess emission and deviations from the requirements of this permit: (a) Report any deviation from permit requirements that could endanger human health or environment, by orally notifying MDE-ARMA immediately upon discovery of deviation [COMAR 26.11.01.07C]. (b) Promptly report occurrences of excess emissions, inclusive of periods of start-up and shutdown, expected to last for one hour or longer by orally notifying MDE-ARMA of the onset and termination of the occurrences

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Table IV – 6	
	[COMAR 26.11.01.07C(1)] (c) When requested by MDE-ARMA, NRG shall report all deviations from permit conditions, including those attributable to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to MDE-ARMA. The written report must include the cause, dates and times of the onset and termination of the deviation, as well as the action planned or taken to reduce, eliminate and prevent the recurrence of the deviation [COMAR 26.11.02.02H] (d) When requested by MDE-ARMA, NRG shall submit a written report to MDE-ARMA within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.7C(2) [COMAR 26.11.01.07D(1)]. A-30. NRG shall monitor and report actual greenhouse gas (GHG) emissions in accordance with 40 CFR Part 98. Reporting is required to begin for actual GHG emissions that are generated in the calendar year in which the facility begins operation, with the report submitted electronically to EPA by 31 March of the following year and annually thereafter [40 CFR Part 98]. A-31. All records and logs required by this CPCN shall be maintained by NRG at the Morgantown STAR Facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of MDE-ARMA. A-32. All air quality notifications and reports required by this CPCN shall be submitted to [COMAR 26.11.01.05]: Air Quality Compliance Program Administrator Maryland Department of the Environment 1800 Washington Boulevard, Suite 715 Baltimore, Maryland 21230

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION V INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

(1) No. 6 Stationary internal combustion engines with an output less than 500 brake horsepower (373 kilowatts) and which are not used to generate electricity for sale or for peak or load shaving;

These *affected units* are subject to the following requirements:

(A) COMAR 26.11.09.05E(2), Emissions During Idle Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.

(B) COMAR 26.11.09.05E(3), Emissions During Operating Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.

(C) Exceptions:

(i) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

(ii) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(a) Engines that are idled continuously when not in service: 30 minutes
(b) all other engines: 15 minutes.

(iii) COMAR 26.11.09.05E(2) & (3) do not apply while maintenance, repair or testing is being performed by qualified mechanics.

(D) COMAR 26.11.36.03A(1), which establishes that the Permittee may not operate an emergency generator except for emergencies, testing and maintenance purposes.

(E) COMAR 26.11.36.03A(5), which establishes that the Permittee may not operate an emergency generator for testing and engine maintenance purposes between 12:01 a.m. and 2:00 p.m. on any day on which the Department forecasts that the air quality will be a code orange, code red, or code purple unless the engine fails a test and engine maintenance and a re-test are necessary.

(2) No. 3 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

These *affected units* are subject to COMAR 26.11.19.09D, which requires that the Permittee control emissions of volatile organic compounds (VOC) from cold degreasing operations by meeting the following requirements:

(a) COMAR 26.11.19.09D(2)(b), which establishes that the Permittee shall not use any VOC degreasing material that exceeds a vapor pressure of 1 mm Hg at 20°C;

(b) COMAR 26.11.19.09D(3)(a—d), which requires that the Permittee implement good operating practices designed to minimize spills and evaporation of VOC degreasing material. These practices, which shall be established in writing and displayed such that they are clearly visible to operators, shall include covers (including water covers), lids, or other methods of minimizing evaporative losses, and reducing the time and frequency during which parts are cleaned;

(c) COMAR 26.11.19.09D(4), which prohibits the use of any halogenated VOC for cold degreasing.

The Permittee shall maintain on site for at least five (5) years, and shall make available to the Department upon request, the following records of operating data:

(a) Monthly records of the total VOC degreasing materials used; and

(b) Written descriptions of good operating practices designed to minimize spills and evaporation of VOC degreasing materials.

(3) ✓ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;

(4) ✓ Brazing, soldering, or welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals and not directly related to plant maintenance, upkeep and repair or maintenance shop activities;

(5) Containers, reservoirs, or tanks used exclusively for:

(a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

(b) No. 15 Storage of lubricating oils;

(c) No. 6 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

(d) No. 1 Storage of motor vehicle gasoline and having individual tank capacities of 2,000 gallons (7.6 cubic meters) or less;

(6) ✓ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;

(7) ✓ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;

(8) ✓ Potable water treatment equipment, not including air stripping equipment;

(9) ✓ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act;

(10) ✓ Natural draft hoods or natural draft ventilators that exhaust air pollutants into the ambient air from manufacturing/industrial or commercial processes;

(11) ✓ Laboratory fume hoods and vents;

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

SECTION VI STATE-ONLY ENFORCEABLE CONDITIONS

The Permittee is subject to the following State-only enforceable requirements:

Applicable Regulations:

COMAR 26.11.06.08 – Nuisance. "An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be consumed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution."

COMAR 26.11.06.09 - Odors. "A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created."

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

For By-Pass Stack:
F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Standards/Limits:

COMAR 26.11.09.05. – Visible Emissions.
"A. Fuel Burning Equipment.
(4) Fuel Burning Equipment Required to Operate a COM. The owner or operator of fuel burning equipment that is subject to the requirement to install and operate a COM shall demonstrate compliance with the applicable visible emissions limitation specified in §A(1) and (2) of this regulation as follows:
(a) For units with a capacity factor greater than 25 percent, until December 31, 2009, compliance is achieved if visible emissions do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4 percent of the unit's operating time in any calendar quarter, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity, except for 5.0 hours or 0.5 percent of the unit's operating time, whichever is greater;
(ii) Do not exceed 70.0 percent opacity for more than four (4) 6-minute periods, except that coal-fired units equipped with electrostatic precipitators may exceed 70.0 percent opacity for no more than 2.2 hours; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4

hours and do not exceed 70.0 percent opacity for more than two (2) six-minute periods;
(b) For units with a capacity factor greater than 25 percent, beginning January 1, 2010, compliance is achieved if visible emissions do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 2 percent of the unit's operating time in any calendar quarter, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity, except for 5.0 hours or 0.5 percent of the unit's operating time, whichever is greater;
(ii) Do not exceed 70.0 percent opacity for more than four (4) six-minute periods, except that coal-fired units equipped with electrostatic precipitators may exceed 70.0 percent opacity for no more than 2.2 hours; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods;
(c) For units with a capacity factor equal to or less than 25 percent that operate more than 300 hours per quarter, beginning July 1, 2009, compliance with the applicable visible emissions limitation in §A(1) and (2) of this regulation is achieved if, during a calendar quarter, visible emissions do not exceed the applicable standard for more than 20.0 hours, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity for more than 2.2 hours;
(ii) Do not exceed 70 percent for more than four 6-minute periods; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods; and
(d) For units with a capacity factor equal to or less than 25 percent that operate 300 hours or less per quarter, beginning July 1, 2009, compliance with the applicable visible emissions limitation in §A(1) and (2) of this regulation is achieved if, during a calendar quarter, visible emissions do not exceed the applicable standard for more than 12.0 hours, during which time visible emissions:
(i) Do not exceed 40.0 percent opacity for more than 2.2 hours;
(ii) Do not exceed 70.0 percent opacity for more than four 6-minute periods; and
(iii) On any calendar day, do not exceed the applicable visible emissions limitation in §A(1) and (2) of this regulation for more than 4.1 hours, during which time visible emissions do not exceed 40.0 percent opacity for more than 1.4 hours and do not exceed 70.0 percent opacity for more than two 6-minute periods.

(5) Notwithstanding the requirements in §A(4) of this regulation, the Department may determine compliance and noncompliance with the visible emissions limitations specified in §A(1) and (2) of this regulation by performing EPA reference Method 9 observations.
(6) In no instance shall excess emissions exempted under this regulation cause or contribute to a violation of any ambient air quality standard in 40 CFR Part 50, as amended, or any applicable requirements of 40 CFR Part 60, 61, or 63, as amended. “

“B. Determining Violations.
(1) For each unit required to operate a COM pursuant to COMAR 26.11.01.10A(1)(a) and (b), each day during a calendar quarter when the opacity of emissions from that unit during the calendar quarter or calendar day, as applicable, exceeds the emission limitations in §A(4)(a), (b), (c) and (d) of this regulation shall constitute a separate day of violation.
(2) A violation of §A(4)(a)(i), (ii), or (iii), §A(4)(b)(i), (ii) or (iii), §A(4)(c)(i), (ii) or (iii), or §A(4)(d)(i), (ii) or (iii), of this regulation, as applicable, that occur on the same day shall constitute separate violations.
(3) A daily violation that occurs during the same calendar quarter as a quarterly violation is a separate violation. “

“C. Fuel Burning Equipment Subject to Federal COM Requirements. Except for owners or operators of fuel burning equipment subject to any federal requirement that mandates operation of a COM and as provided in §D of this regulation, the owner or operator of fuel burning equipment required to install and operate a COM may discontinue the operation of the COM on fuel burning equipment that is served by a flue gas desulfurization device:
(1) When emissions from the equipment do not bypass the flue gas desulfurization device serving the equipment;
(2) When the flue gas desulfurization device serving the equipment is in operation;
(3) If the owner or operator has demonstrated to the Department's satisfaction, in accordance with 40 CFR §75.14, as amended, and all other applicable State and federal requirements, that water vapor is present in the flue gas from the equipment and would impede the accuracy of opacity measurements; and
(4) If the owner or operator has fully implemented an alternative plan, approved by the Department, for monitoring opacity levels and particulate matter emissions from the stack that includes:
(a) A schedule for monthly observations of visible emissions from the stack by a person trained to perform Method 9 observations; and
(b) Installation and operation of a particulate matter CEM that complies with all applicable State and federal requirements for particulate matter CEMs. “

"D. If, for units equipped with a flue gas desulfurization device, emissions bypass the device and are discharged through a bypass stack, the bypass stack shall be equipped with a COM approved by the Department."

Emissions Unit Number(s): F1 and F2: Boilers [SCR Agreement]

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Standards/Limits:

The Permittee shall install and continuously operate two selective reduction (SCR) nitrogen oxide control devices on Units 1 and 2. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

Subject to Paragraph 3 of this Agreement, NRG agrees that at all times when either Unit 1 or Unit 2 at the Morgantown Generating Station is operating with an SCR control device, particulate matter emissions from each operating Unit, individually, shall not exceed the emission limitation required by Code of Maryland Regulation (COMAR) 26.11.09.06A, or the Unit's baseline actual particulate matter emissions as determined by 40 CFR 52.21(b)(48), whichever is lower. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

Where baseline actual particulate matter emissions from a Unit subject to this Agreement are lower than the emission limitation required by COMAR 26.11.09.06A, particulate matter emissions from such Unit may exceed the Unit's baseline actual emissions, if and only if, NRG obtains the Department's approval, by written amendment to this Agreement, to reduce particulate matter emissions from one or more other emission units at the Morgantown Generating Station by an amount equivalent to the increase in actual particulate matter emissions resulting from the installation of the SCR control device. [**Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]**

The ammonia emissions from Unit 1 and Unit 2, individually, shall not exceed 3 parts per million (ppm) determined by a stack test conducted on each Unit in accordance with EPA or Department approved test protocols no later than 180 days following the Unit's initial startup with the SCR control device. [**Reference:**

Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]

Testing Requirements:
The Permittee shall conduct a stack test for particulate matter emissions on each Unit in accordance with EPA or Department approved test methods no later than 180 days following the Unit's initial startup with the SCR control device.
[Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006]

Monitoring Requirements:
COMAR 26.11.01.11 - Continuous Emission Monitoring Requirements.
"A. Applicability and Exemptions.
(1) The provisions of this regulation apply to:
(a) Fuel-burning equipment burning coal that has a rated heat input capacity of 100 million Btu per hour or greater."
"(2) An owner or operator that is required to install a CEM under any federal requirement is also subject to all of the provisions of this regulation."
B. General Requirements for CEMs.
"(1) An owner or operator subject to this regulation shall:
(a) Before installing a CEM, submit to the Department, for approval by the Department and EPA, a plan containing the CEM design specifications, proposed location, and a description of a proposed alternative measurement method; and
(b) Install and operate a CEM in accordance with the plan approved by the Department and EPA under the provisions of §B(1)(a) of this regulation. "
"(2) The owner or operator of fuel-burning equipment burning coal, with a heat input capacity of 100 million Btu per hour or greater, shall install CEMs to measure and record sulfur dioxide, nitrogen oxide, either oxygen or carbon dioxide, and flow."
"(4) Except as otherwise approved by the Department, if the owner or operator is unable to obtain emissions data from CEMs because of a malfunction of the CEM for more than 2 hours in duration, the owner or operator shall use the alternative measurement method approved by the Department and EPA. "
"C. Quality Assurance for CEMs. A CEM used to monitor a gas concentration shall meet the quality assurance criteria of 40 CFR Part 60, Appendix F, as amended, which is incorporated by reference, or, if applicable, the quality assurance criteria of 40 CFR Part 75, Appendix B, as amended.
D. Monitoring and Determining Compliance.
(1) General. A CEM required by this regulation is the primary method used by the Department to determine compliance or non-compliance with the applicable emission standards established in any permit or approval, administrative or court

order, Certificate of Public Convenience and Necessity, or regulation in this subtitle.
(2) Data Reduction. A CEM used to monitor a gas concentration shall record not less than four equally spaced data points per hour and automatically reduce data in terms of averaging times consistent with the applicable emission standard.
E. Record Keeping and Reporting Requirements.
(1) CEM System Downtime Reporting Requirements.
(a) All CEM system downtime that lasts or is expected to last more than 24 hours shall be reported to the Department by telephone before 10 a.m. of the first regular business day following the breakdown.
(b) The system breakdown report required by §E(1)(a) of this regulation shall include the reason, if known, for the breakdown and the estimated period of time that the CEM will be down. The owner or operator of the CEM shall notify the Department by telephone when an out-of-service CEM is back in operation and producing data that has met performance specifications for accuracy, reliability, and durability of acceptable monitoring systems, as provided in COMAR 26.11.31, and is producing data.
(2) CEM Data Reporting Requirements.
(a) All test results shall be reported in a format approved by the Department.
(b) Certification testing shall be repeated when the Department determines that the CEM data may not meet performance specifications because of component replacement or other conditions that affect the quality of generated data.
(c) A quarterly summary report shall be submitted to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by the Department, and shall include the following:
(i) The cause, time periods, and magnitude of all emissions which exceed the applicable emission standards;
(ii) The source downtime including the time and date of the beginning and end of each downtime period and whether the source downtime was planned or unplanned;
(iii) The time periods and cause of all CEM downtime including records of any repairs, adjustments, or maintenance that may affect the ability of the CEM to meet performance specifications of emission data;
(iv) Quarterly totals of excess emissions, installation downtime, and CEM downtime during the calendar quarter;
(v) Quarterly quality assurance activities;
(vi) Daily calibration activities that include reference values, actual values, absolute or percent of span differences, and drift status; and
(vii) Other information required by the Department that is determined to be necessary to evaluate the data, to ensure that compliance is achieved, or to determine the applicability of this regulation.
(d) All information required by this regulation to be reported to the Department shall be retained and made available for review by the Department for a

minimum of 2 years from the time the report is submitted. "

Reporting Requirements:
The Permittee shall submit a stack test protocol to the Department for approval and notify the Department of the scheduled test date at least thirty-(30) days in advance of the test. The Permittee shall submit the stack test results to the Department no later than forty-five (45) days following completion of the test. **[Reference: Agreement between NRG Mid-Atlantic, LLC and the MDE Regarding Morgantown Generating Station NO_X Pollution Control Project dated April 26, 2006**]

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

Alternate Operating Scenario for Emission Units F1 & F2

The Permittee shall burn used oil and boiler chemical cleaning waste materials in the utility boilers.

COMAR 26.11.09.10 - Requirements to Burn Used Oil and Waste Combustible Fluid as Fuel.

Applicable Regulations:
A. "General Requirements.
(1) A person who proposes to burn used oil or waste combustible fluid in an installation shall submit the following information to the Department:
(a) A description of, and the location of, each fuel-burning equipment or other installation in which the used oil or WCF is to be burned and the rated heat input capacity of each;
(b) The type and amount of fuel currently being used in each installation and the gallons of used oil or WCF expected to be burned annually;
(c) The maximum percentage of used oil or WCF to be burned as fuel in each installation; and
(d) An analysis by an independent laboratory of a representative sample of the used oil or WCF, which shall include the concentration of each of the materials listed in §B of this regulation, the PCB concentration, and the flash point.

(2) A person may burn on-specification used oil in any installation upon submitting the information required in §A(1) of this regulation.
(3) A person who is burning used oil or WCF under a current approval issued by the Department may continue to burn the approved material if:

(a) The person registers the equipment that is burning the used oil or WCF by submitting the information required in §A(1) of this regulation; and
(b) The used oil or WCF is being burned in an authorized installation.

(4) A person who proposes to burn off-specification used oil or WCF in an installation other than a space heater, as provided in 40 CFR §279.23, is subject to the permit or registration requirements in COMAR 26.11.02.
(5) A person who receives a permit or registration to burn used oil or WCF shall burn only the materials authorized in the permit or registration.
(6) A person may burn off-specification used oil and waste combustible fluid only in those installations listed at 40 CFR §279.12(c)."

B "Specifications for Used Oil.
(1) Except as provided in §B(2) of this regulation, used oil specifications are as follows:

Material	Allowable Level
(a) Lead	100 ppm
(b) Total halogens	4,000 ppm
(c) Arsenic	5 ppm
(d) Cadmium	2 ppm
(e) Chromium	10 ppm
(f) Flash point	100° F minimum

(2) For used oil that does not satisfy the rebuttable presumption for halogens at 40 CFR 279.10(b)(1)(ii) and 279.63, the maximum allowable level for halogens may not exceed 1,000 ppm."

Record keeping
The Permittee shall maintain a record of the quantity of used oil that is burned and analyses by an independent laboratory of representative samples of the used oil.

Healthy Air Act Requirements
These regulations became effective under an Emergency Action on January 18, 2007 and were adopted as permanent regulations on June 17, 2007. They implement the requirements of the Healthy Air Act (Ch. 23, Acts of 2006), which was signed into law on April 6, 2006 and which established emission limitations and related requirements for NO_X, SO_2 and mercury. Regulations .1-.03, .03E, .05 and .06 related to the reductions of NO_X, and SO_2 emissions were submitted to EPA as a revision to Maryland's State Implementation Plan (SIP) on June 12,

2007. The requirements for NO_X, and SO_2 emissions, all except for one were approved by EPA, as a SIP revision on September 4, 2008 with an effective date of October 6, 2008. The requirements for mercury emissions are not part of the Maryland's SIP and are therefore, part of the State-Only Section.

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Regulations:
COMAR 26.11.27 - Emission Limitations for Power Plant
COMAR 26.11.27.03 – General Requirements
A. An electric generating unit subject to this chapter shall comply with the emission limitations for NO_X, SO_2, and mercury as provided in this regulation.
B. NO_X Emission Limitations.
Healthy Air Act State-Only enforceable NO_X requirement
COMAR 26.11.27.03B(7)(iii) – "Not later than December 31 of the year in which the emission limitation is exceeded, the owner or operator of the affected generating unit or units transfers to the Maryland Environmental Surrender Account, ozone season NO_X allowances equivalent in number to the tons of NO_X emitted in excess of the emission limitation in §B(4) or (6), as applicable".

COMAR 26.11.27.03D. Mercury Emission Limitations.
(1) For the 12 months beginning January 1, 2010 and ending with the 12 months beginning December 1, 2012 to December 1, 2013, each affected facility shall meet 12-month rolling average removal efficiency for mercury of at least 80 percent.
(2) For the 12 months beginning January 1, 2013 and thereafter, each affected facility shall meet 12-month rolling average removal efficiency for mercury of at least 90 percent.
(3) The mercury removal efficiency required in §D(1) and (2) of this regulation shall be determined in accordance with Regulation .04 of this chapter.

COMAR 26.11.27.04 - Determining the Mercury Removal Efficiency for Affected Facilities.
A. The procedures of §§B—F of this regulation shall be used to demonstrate compliance with the 12-month rolling average removal efficiency required for mercury by Regulation .03D of this chapter. The owner or operator of an affected facility shall notify the Department of the compliance demonstration method it has elected from §§D—F of this regulation on or before January 1, 2010, for the compliance period that commences on that date and on or before January 1, 2013, for the compliance period that commences on that date. The owner or

operator of an electric generating unit that elects to demonstrate compliance with the required mercury removal efficiency by meeting the mass emissions limitation in §F of this regulation shall utilize that same method for all other electric generating units in the system. Once elected for each affected facility or system, as applicable, the option may not be changed during the designated compliance period, but may be changed for the next compliance period.

B. Determining Mercury Content in Coal and Mercury Flue Gas Emission Rates for Each Affected Electric Generating Unit.
(1) The owner or operator of an electric generating unit subject to this regulation shall, at least once each quarter during a consecutive 18-month period beginning not later than July 1, 2007:
(a) Determine the mercury content of the coal utilized by each affected unit using a test method approved by the Department; and
(b) Conduct a combustion gas test to determine the mercury emission rate in the flue gas upstream of any pollution control measure, including fuel mercury beneficiation.
(2) Combustion gas testing and collection of coal samples to determine the mercury content in coal shall be performed on the same day or days.
(3) The mercury emission rate in the flue gas shall be reported as ounces of mercury per trillion Btu heat input.
(4) Combustion gas testing shall be performed using a test protocol approved by the Department. The test protocol shall be submitted to the Department at least 45 days prior to commencement of testing.
(5) The owner or operator of an affected electric generating unit shall submit to the Department:
(a) The results of tests to determine the mercury content of coal and mercury emission rate in the flue gas upon receipt; and
(b) A demonstration that the combustion gas tests were performed utilizing a coal with a mercury content within the same or lower range as the mercury content of the coal utilized by the electric generating unit during the previous 10 years.
Completed

C. Determining the Uncontrolled Mercury Flue Gas Baseline for an Affected Facility.
(1) The uncontrolled mercury emission rate in the flue gas of each electric generating unit subject to this chapter shall be determined as the arithmetic average of the quarterly combustion gas tests required by §B of this regulation expressed as ounces per trillion Btu heat input.
(2) The uncontrolled mercury baseline emission rate for an affected facility shall be determined as the heat input weighted average of the emission rates for the coal-fired electric generating units at the affected facility determined in accordance with §C(1) of this regulation.

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

D. Demonstrating Compliance By Measuring Mercury Removal Efficiency. Compliance with the required mercury removal efficiency is demonstrated at an affected facility when the heat input weighted average of the mercury emission rate of all coal-fired electric generating units at the affected facility, calculated as a 12-month rolling average, is:
(1) For the 12-month period commencing on January 1, 2010, not more than 20 percent of the uncontrolled mercury emission rate established pursuant to §C of this regulation; and
(2) For the 12-month period commencing January 1, 2013 and thereafter, not more than 10 percent of the uncontrolled mercury emission rate established pursuant to §C of this regulation.

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

Affected Facility	Emission Limits Ounces per Trillion Btu Heat Input Beginning	
	January 1, 2010	January 1, 2013
Morgantown	27	14

F. Demonstrating Compliance by Meeting a Mercury Mass Emission Cap.
(1) Compliance with the required mercury removal efficiency is demonstrated at an affected facility when the mass emissions from all affected facilities in a system, measured in pounds as a 12-month rolling average, do not exceed the applicable emission limits in §F(2) of this regulation.

(2) Mercury Emission Limits.

Affected Facility	Emission Limits Pounds per Year Beginning	
	January 1, 2010	January 1, 2013
Morgantown	127	66

(3) In the event that an electric generating unit at an affected facility subject to this chapter permanently ceases operation, the mass emission limitation in §F(2) of this regulation which is applicable to that affected facility shall be reduced proportionally based on the relative capacity, in megawatts, of all the electric generating units at the affected facility which are subject to this regulation.
(4) In the event that an entire affected facility within a system permanently ceases operation, the total mass emission limitation in §F(2) which is applicable to the system shall be reduced by the mass emission limitation applicable to the affected facility.
(5) Except during periods of startup, shutdown, malfunction or maintenance, the owner or operator of an electric generating unit shall ensure that mercury control measures are continuously employed on each unit and properly adjusted for optimal control taking into consideration the operating conditions.

COMAR 26.11.27.05 - Monitoring and Reporting Requirements.
A. Compliance with the emission limitations in this chapter shall be demonstrated with a continuous emission monitoring system that is installed, operated, and certified in accordance with 40 CFR Part 75.

COMAR 26.11.27.05 - Monitoring and Reporting Requirements.
B. Beginning with calendar year 2007 and each year thereafter, the owner or operator of each electric generating unit subject to this chapter shall submit an annual report to the Department, the Department of Natural Resources, and the Public Service Commission. The report for each calendar year shall be submitted not later than March 1 of the following year.

C. Each report shall include:
(1) Emissions performance results related to compliance with the emission requirements under this chapter;
(2) Emissions of NO_X and SO_2, and beginning with calendar year 2010, mercury, emitted during the previous calendar year from each affected unit;
(3) A current compliance plan; and
(4) Any other information requested by the Department.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

Applicable Regulations:

Management of Coal Combustion Byproducts

COMAR 26.04.10.03 - General Restrictions and Specifically Prohibited Acts.
(1) COMAR 26.04.10.03B(3) - Air Pollution
"(a)A person may not engage in the disposal, storage, transportation, processing, handling, or use of coal combustion byproducts without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include, when appropriate as determined by the Department, those precautions described in COMAR 26.11.06.03C and D."

"(b) In addition to the requirements of paragraph (a), a person may not transport coal combustion byproducts without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include, at a minimum the following:
(i)Vehicles transporting coal combustion byproducts shall be fully enclosed, or fully enclosed on all sides and covered with a firmly secured canvas or similar type covering, so as to prevent any coal combustion byproducts from blowing off, falling off, or spilling out of the vehicle or the coal combustion byproducts shall be handled and transported in sealed containers designed for transportation of powdery solids;
(ii)Before leaving a site where coal combustion byproducts are loaded or off-loaded, vehicles transporting coal combustion byproducts shall be rendered clean and free of excess material or debris that could blow off, fall off, or spill during transport;
(iii)Coal combustion byproducts being loaded into or off-loaded from a vehicle shall be sufficiently moistened or otherwise conditioned or contained to prevent particulate coal combustion byproducts from becoming airborne or causing fugitive air emissions; and
(iv)Transporters of coal combustion byproducts shall maintain an inspection log that shall be maintained in each vehicle at all times during transport of coal combustion byproducts that shall certify compliance with the standards in this regulation .03B(3)(b)."

(2) COMAR 26.04.10.05 - Storage
"A. A person may not store coal combustion byproducts except in accordance with the provisions of this regulation.

B. A person may not store coal combustion byproducts directly on the surface of the ground or in an unlined surface impoundment, pit, pond, or lagoon without the authorization of the Department.

C. A person shall store coal combustion byproducts in a manner that prevents contact with waters of this State and that is designed either to minimize contact with precipitation or to collect leachate that may result from contact with precipitation.

D. A person may not use a storage system for coal combustion byproducts unless the storage system is:
(1) Designed, constructed, and installed to contain coal combustion byproducts and contaminants in the coal combustion byproducts and prevent them from being released to the environment; and
(2) Provided with a roof or other protections to prevent nuisance, air pollution, and unlawful discharges of contaminated stormwater or leachate to the waters of this State.

E. A person may not store coal combustion byproducts in an area likely to pollute the waters of this State.

F. Responsibility for the prompt control, containment, and removal of any released coal combustion byproducts or for placing coal combustion byproducts in a position likely to pollute the waters of this State shall be with the person responsible for the release, and with the owner and operator of the facility, site, or storage system where the release occurred. This responsibility shall continue until removal or clean up of any contamination or pollution from the release has been accomplished to the satisfaction of the Department.

G. The Department may impose specific requirements for the storage of coal combustion byproducts upon a determination that storage of coal combustion byproducts has caused or is likely to cause a discharge to the waters of the State, is a nuisance, or otherwise poses a threat to public health or the environment.

H. The owner and operator of a facility, site, or storage system shall ensure that:
(1) A release of coal combustion byproducts during storage operations due to spilling or overflowing does not occur;
(2) Adequate storage space is available to handle the volume of coal combustion

byproducts generated and to be stored; and
(3) Transfer, handling, and storage operations are performed in a manner that shall prevent, contain, and clean up spills of coal combustion byproducts."

Emissions Unit Number(s): STAR

The STAR facility processes fly ash in to a Portland cement substitute. The STAR facility is made up of a 140 mmBtu/hr process reactor equipped with a supplemental 65 mmBtu/hr propane heater and a 20 mmBtu/hr propane duct burner. The unit is equipped with a fabric filter baghouse and wet flue gas desulfurization scrubber system. Exhaust gases are directed through a 125 foot stack. The STAR process facility includes a fly ash receiving feed silo and a truck unloading facility, a 30,000 ton product storage dome which includes a product silo with a truck loading facility. The reactor, the storage dome and silos are equipped with pneumatic ash transfer systems. (**6-0150 (CPCN 9229)**)

[Reference: CPCN 9229]
A-36. Annual emissions from the Morgan STAR Facility shall be less than the following in consecutive 12-month period, rolling monthly, inclusive of emissions during periods of startup, shutdown and malfunction:

Pollutant	**Emission Limit for Entire Morgantown STAR Facility (pounds per year)**
Mercury (Hg)	5

A-37. NRG shall conduct annual performance stack tests of the STAR process reactor to determine compliance with COMAR Title 26, Subtitle 11 for mercury [COMAR 26.11.01.04A. The performance stack tests shall be conducted with a representative composite of fly ash typically combusted in the STAR process reactor at that time. NRG shall submit a stack test protocol to MDE-ARMA for approval, in accordance with Condition A-25.

A-38. NRG shall analyze samples of the unprocessed fly ash entering the STAR process reactor and the processed fly ash exiting the STAR process reactor or mercury concentration on a monthly basis.

A-39. NRG shall submit a quarterly monitoring report to MDE-ARMA, postmarked by the 30th day following the end of each calendar quarter that includes the following information for the STAR Facility:

(a) The actual emissions of mercury for the STAR Facility based on a consecutive 12-month period, rolling monthly. An algorithm, including example calculations, emissions factors, and monthly throughput, explaining the method used to determine emission rates shall be submitted to MDE-ARMA for review and approval at least 60 days prior to the initial quarterly monitoring report. Subsequent submittals of the algorithm and sample calculations are only required if NRG changes the method of calculating emissions, changes emissions factors, or if requested by MDE-ARMA; and
(b) The analysis results for the monthly samples of the unprocessed fly ash and processed fly ash required under Condition A-38.

A-40. NRG shall maintain any records necessary to determine the STAR Facility mercury actual emissions. Emissions shall be calculated monthly and annually based on a consecutive 12-month period, rolling monthly for comparison with the annual emission limit in Condition A-36.

Emissions Unit Number(s): F1 and F2: Boilers Cont'd

F1: Unit 1: manufactured by CE-Alstom and rated at 640 MW. (**3-0002**)
F2: Unit 2: manufactured by CE-Alstom and rated at 640 MW. (**3-0003**)

COMAR 26.11.38 – Control of NO_X Emissions from Coal-Fired Electric Generating Units.

Applicable Regulations:

COMAR 26.11.38.02 – Applicability
"The provisions of this chapter apply to an affected electric generating unit as that term is defined in §.01B of this chapter."

COMAR 26.11.38.03 – NO_X Emission Control Requirements
A. Daily NO_X Reduction Requirements During the Ozone Season
(1) Not later than 45 days after the effective date of this regulation, the owner or operator of an affected electric generating unit shall submit a plan to the Department and EPA for approval that demonstrated how each affected electric generating unit ("the unit") will operate installed pollution control technology and combustion controls to meet the requirements of §A(2) of this regulation. The plan shall cover all modes of operation, including but not limited to normal operations, start-up, shut-down and low load operations.

(2) Beginning on May 1, 2015, for each operating day during the ozone season, the owner or operator of an affected electric generating unit shall minimize NO_X emissions by operating and optimizing the use of all installed pollution control technology and combustion controls consistent with the technological limitations, manufacturers' specification, good engineering and maintenance practices, and good air pollution control practices for minimizing emissions (as defined in 40 CFR §60.11(d)) for such equipment and the unit at all times the unit is in operation while burning any coal.

B. Ozone Season NO_X Reduction Requirements.
(1) Except as provided in §B(3) of this regulation, the owner or operator of an affected electric generating unit shall not exceed a NO_X 30-day system-wide rolling average emission rate of 0.15 lbs/MMBtu during the ozone season.
(2) The owner or operator of an affected electric generating unit subject to the provisions of this regulation shall continue to meet ozone season NO_X reduction requirements in COMAR 26.11.27.

C. Annual NO_X Reduction Requirements.
The owner of operator of an affected electric generating unit subject to the provisions of this regulation shall continue to meet the annual NOX reduction requirements in COMAR 26.11.27.

COMAR 26.11.38.04 – Compliance Demonstration Requirements
A. Procedures for demonstrating compliance with §.03(A) of this chapter.
(1) An affected electric generating unit shall demonstrate, to the Department's satisfaction, compliance with §.03(A)(2) of this chapter, using the information collected and maintained in accordance with §.03(A)(1) of this chapter and any additional demonstration available to and maintained by the affected electric generating unit.
(2) An affected electric generating unit shall not be required to submit a unit-specific report consistent with §A(3) of this regulation when the unit emits at levels that are at or below the following rates:

Affected Unit	24-Hour Block Average NO_X Emissions in lbs/MMBtu
Morgantown	
Unit 1	0.07
Unit 2	0.07

(3) The owner or operator of an affected electric generating unit subject to §.03(A)(2) of this chapter shall submit a unit-specific report for each day

the unit exceeds its NO_X emission rate of §A(2) of this regulation, which shall include the following information for the entire operating day:
(a) Hours of operation for the unit;
(b) Hourly averages of operating temperature of installed pollution control technology;
(c) Hourly averages of heat input (MMBtu/hr);
(d) Hourly averages of output (MWh);
(e) Hourly averages of Ammonia or urea flow rates;
(f) Hourly averages of NO_X emissions data (lbs/MMBtu and tons);
(g) Malfunction data;
(h) The technical and operational reason the rate was exceeded, such as:
(i) Operator error;
(ii) Technical events beyond the control of the operator (e.g. acts of God, malfunction); or
(iii) Dispatch requirements that mandate unplanned operation (e.g. start-ups and shut-down, idling and operation at low voltage or low load)
(i) A written narrative describing any actions taken to reduce emission rates; and
(j) Other information that the Department determines is necessary to evaluate the data or to ensure that compliance is achieved.

(4) An exceedance of the emissions rate if §A(2) of this regulation as a result of factors including but not limited to start-up and shut-down, days when the unit was directed by the electric grid operator to operate at low load or to operated pursuant to any emergency generation operations required by the electric grid operator, including necessary testing for emergency operations, or to have otherwise occurred during operations which are deemed consistent with the unit's technological limitations, manufacturers' specifications, good engineering and maintenance practices, and good air pollution control practices for minimizing emissions, shall not be considered a violation of §.03A(2) of this chapter provided that the provisions of the approved plan as required in §.03A(1) of this chapter are met.

B. Procedures for demonstrating compliance with NO_X emission rates of this chapter.
(1) Compliance with the NO_X emission rate limitations in §.03B(1), §.03D(2), and §.04A(2) of this chapter shall be demonstrated with a continuous emission monitoring system that is installed, operated, and certified in accordance with 40 CFR Part 75.
(2) For §.03B(1) of this chapter, in order to calculate the 30-day system-wide rolling average emissions rated, if twenty-nine system operating days are not available from the current ozone season, system operating days from the previous ozone season shall be used.

NRG ENERGY, INC.
MORGANTOWN GENERATING STATION
12620 CRAIN HIGHWAY
NEWBURG, MD 20664
DRAFT PART 70 OPERATING PERMIT NO. 24-017-0014

COMAR 26.11.38.05 – Reporting Requirements

A. Reporting Schedule

(1) Beginning 30 days after the first month of the ozone season following the effective date of this chapter, each affected electric generating unit subject to the requirements of this chapter shall submit a monthly report to the Department detailing the status of compliance with this chapter during the ozone season.

(2) Each subsequent monthly report shall be submitted to the Department not later than 30 days following the end of the calendar month during the ozone season.

B. Monthly Reports During Ozone Season.

Monthly reports during the ozone season shall include:

(1) Daily pass or fail of the NO_X emission rates of §.04A(2) of this chapter.

(2) The reporting information as required under §.04A(3) of this chapter.

(3) The 30-day system-wide rolling average emissions rate for each affected electric generating unit to demonstrate compliance with §.03B(1) of this chapter..

EXHIBIT B

Notice of Intent to Sue for Failure to Timely Grant or Deny a Petition to Object to Title V Operating Permit No. 24-017-0014, Issued to NRG Energy, Inc. for the Morgantown Generating Station in Newburg, Maryland (attachments omitted)

ENVIRONMENTAL INTEGRITY PROJECT

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

June 3, 2016

Via Certified Mail, Return Receipt Requested

Administrator Gina McCarthy
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 Morgantown Generating Station

Dear Administrator McCarthy:

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 24-017-0014 ("Proposed Permit" or "Permit") issued by the Maryland Department of the Environment to NRG Energy, Inc. for the Morgantown Generating Station ("Morgantown"). Morgantown is a coal-fired power plant located at 12620 Crain Highway, Newburg, Maryland 20664.

Our Title V petition, which is included with this notice letter (minus the petition's exhibits), was timely filed on January 4, 2016 — 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 60 days after you receive this notice letter 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. 42 U.S.C. § 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. 42 U.S.C. § 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 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
pdycus@environmentalintegrity.org

Attachment

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

Loretta E. Lynch, Attorney General
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530-0001

Shawn M. Garvin, Regional Administrator
U.S. EPA Region 3
Environmental Protection Agency
1650 Arch Street
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 items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- 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.

1. Article Addressed to:

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Mail Manager ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery
JUN 6 2016

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7016 0340 0000 1376 9425

PS Form 3811, July 2013 Domestic Return Receipt

CIVIL COVER SHEET

JS-44 (Rev. 7/16 DC)

I. (a) PLAINTIFFS

ENVIRONMENTAL INTEGRITY PROJECT, CHESAPEAKE CLIMATE ACTION NETWORK, PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC., and SIERRA CLUB

(b) COUNTY OF RESIDENCE OF FIRST LISTED PLAINTIFF 11001
(EXCEPT IN U.S. PLAINTIFF CASES)

DEFENDANTS

GINA MCCARTHY, in her official capacity as Administrator of the U.S. EPA

COUNTY OF RESIDENCE OF FIRST LISTED DEFENDANT 11001
(IN U.S. PLAINTIFF CASES ONLY)
NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED

(c) ATTORNEYS (FIRM NAME, ADDRESS, AND TELEPHONE NUMBER)

Sparsh Khandeshi, Environmental Integrity Project
1000 Vermont Ave. NW, Suite 1100,
Washington, D.C. 20005
202-263-4446

ATTORNEYS (IF KNOWN)

II. BASIS OF JURISDICTION
(PLACE AN x IN ONE BOX ONLY)

- ○ 1 U.S. Government Plaintiff
- ○ 3 Federal Question (U.S. Government Not a Party)
- ◉ 2 U.S. Government Defendant
- ○ 4 Diversity (Indicate Citizenship of Parties in item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES (PLACE AN x IN ONE BOX FOR PLAINTIFF AND ONE BOX FOR DEFENDANT) **FOR DIVERSITY CASES ONLY!**

	PTF	DFT		PTF	DFT
Citizen of this State	○ 1	○ 1	Incorporated or Principal Place of Business in This State	○ 4	○ 4
Citizen of Another State	○ 2	○ 2	Incorporated and Principal Place of Business in Another State	○ 5	○ 5
Citizen or Subject of a Foreign Country	○ 3	○ 3	Foreign Nation	○ 6	○ 6

IV. CASE ASSIGNMENT AND NATURE OF SUIT

(Place an X in one category, A-N, that best represents your Cause of Action and one in a corresponding Nature of Suit)

○ A. *Antitrust*

- ☐ 410 Antitrust

○ B. *Personal Injury/ Malpractice*

- ☐ 310 Airplane
- ☐ 315 Airplane Product Liability
- ☐ 320 Assault, Libel & Slander
- ☐ 330 Federal Employers Liability
- ☐ 340 Marine
- ☐ 345 Marine Product Liability
- ☐ 350 Motor Vehicle
- ☐ 355 Motor Vehicle Product Liability
- ☐ 360 Other Personal Injury
- ☐ 362 Medical Malpractice
- ☐ 365 Product Liability
- ☐ 367 Health Care/Pharmaceutical Personal Injury Product Liability
- ☐ 368 Asbestos Product Liability

◉ C. *Administrative Agency Review*

- ☐ 151 Medicare Act

Social Security
- ☐ 861 HIA (1395ff)
- ☐ 862 Black Lung (923)
- ☐ 863 DIWC/DIWW (405(g))
- ☐ 864 SSID Title XVI
- ☐ 865 RSI (405(g))

Other Statutes
- ☐ 891 Agricultural Acts
- ☒ 893 Environmental Matters
- ☐ 890 Other Statutory Actions (If Administrative Agency is Involved)

○ D. *Temporary Restraining Order/Preliminary Injunction*

Any nature of suit from any category may be selected for this category of case assignment.

(If Antitrust, then A governs)

○ E. *General Civil (Other)* OR **○ F. *Pro Se General Civil***

Real Property
- ☐ 210 Land Condemnation
- ☐ 220 Foreclosure
- ☐ 230 Rent, Lease & Ejectment
- ☐ 240 Torts to Land
- ☐ 245 Tort Product Liability
- ☐ 290 All Other Real Property

Personal Property
- ☐ 370 Other Fraud
- ☐ 371 Truth in Lending
- ☐ 380 Other Personal Property Damage
- ☐ 385 Property Damage Product Liability

Bankruptcy
- ☐ 422 Appeal 27 USC 158
- ☐ 423 Withdrawal 28 USC 157

Prisoner Petitions
- ☐ 535 Death Penalty
- ☐ 540 Mandamus & Other
- ☐ 550 Civil Rights
- ☐ 555 Prison Conditions
- ☐ 560 Civil Detainee – Conditions of Confinement

Property Rights
- ☐ 820 Copyrights
- ☐ 830 Patent
- ☐ 840 Trademark

Federal Tax Suits
- ☐ 870 Taxes (US plaintiff or defendant)
- ☐ 871 IRS-Third Party 26 USC 7609

Forfeiture/Penalty
- ☐ 625 Drug Related Seizure of Property 21 USC 881
- ☐ 690 Other

Other Statutes
- ☐ 375 False Claims Act
- ☐ 376 Qui Tam (31 USC 3729(a))
- ☐ 400 State Reapportionment
- ☐ 430 Banks & Banking
- ☐ 450 Commerce/ICC Rates/etc.
- ☐ 460 Deportation
- ☐ 462 Naturalization Application
- ☐ 465 Other Immigration Actions

- ☐ 470 Racketeer Influenced & Corrupt Organization
- ☐ 480 Consumer Credit
- ☐ 490 Cable/Satellite TV
- ☐ 850 Securities/Commodities/ Exchange
- ☐ 896 Arbitration
- ☐ 899 Administrative Procedure Act/Review or Appeal of Agency Decision
- ☐ 950 Constitutionality of State Statutes
- ☐ 890 Other Statutory Actions (if not administrative agency review or Privacy Act)

○ **G. *Habeas Corpus/ 2255***	○ **H. *Employment Discrimination***	○ **I. *FOIA/Privacy Act***	○ **J. *Student Loan***
☐ 530 Habeas Corpus – General ☐ 510 Motion/Vacate Sentence ☐ 463 Habeas Corpus – Alien Detainee	☐ 442 Civil Rights – Employment (criteria: race, gender/sex, national origin, discrimination, disability, age, religion, retaliation) *(If pro se, select this deck)*	☐ 895 Freedom of Information Act ☐ 890 Other Statutory Actions (if Privacy Act) *(If pro se, select this deck)*	☐ 152 Recovery of Defaulted Student Loan (excluding veterans)
○ **K. *Labor/ERISA (non-employment)***	○ **L. *Other Civil Rights (non-employment)***	○ **M. *Contract***	○ **N. *Three-Judge Court***
☐ 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	☐ 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	☐ 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	☐ 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.)

42 U.S.C. 7604(a)(2) Failure to perform non-discretionary action

VII. REQUESTED IN COMPLAINT CHECK IF THIS IS A **CLASS ACTION** UNDER F.R.C.P. 23 **DEMAND $** **JURY DEMAND:** Check YES only if demanded in complaint **YES** ☐ **NO** ☒

VIII. RELATED CASE(S) IF ANY (See instruction) **YES** ☐ **NO** ☐ If yes, please complete related case form

DATE: August 12, 2016 **SIGNATURE OF ATTORNEY OF RECORD** /s/ Sparsh Khandeshi

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.

AO 440 (Rev. 06/12) Summons in a Civil Action

UNITED STATES DISTRICT COURT

for the

District of Columbia

ENVIRONMENTAL INTEGRITY PROJECT, CHESAPEAKE CLIMATE ACTION NETWORK, PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC, and SIERRA CLUB *Plaintiff(s)* v. GINA MCCARTHY, in her official capacity as the Administrator of the United States Environmental Protection Agency *Defendant(s)*	)	Civil Action No.

SUMMONS IN A CIVIL ACTION

To: *(Defendant's name and address)* Gina McCarthy, Administrator
U.S. Environmental Protection Agency
Ariel Rios Building, Office of the Administrator, Mail Code 1101A
1200 Pennsylvania Ave, N.W.
Washington, DC 20460

A lawsuit has been filed against you.

Within 21 days after service of this summons on you (not counting the day you received it) — or 60 days if you are the United States or a United States agency, or an officer or employee of the United States described in Fed. R. Civ. P. 12 (a)(2) or (3) — you must serve on the plaintiff an answer to the attached complaint or a motion under Rule 12 of the Federal Rules of Civil Procedure. The answer or motion must be served on the plaintiff or plaintiff's attorney, whose name and address are:

Sparsh Khandeshi
Environmental Integrity Project
1000 Vermont Ave. N.W., Suite 1100
Washington, D.C. 20005

If you fail to respond, judgment by default will be entered against you for the relief demanded in the complaint. You also must file your answer or motion with the court.

CLERK OF COURT

Date: _____

_____
Signature of Clerk or Deputy Clerk

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 $ 0.00 .

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:

Print Save As... Reset

AO 440 (Rev. 06/12) Summons in a Civil Action

UNITED STATES DISTRICT COURT

for the

District of Columbia

ENVIRONMENTAL INTEGRITY PROJECT, CHESAPEAKE CLIMATE ACTION NETWORK, PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC, and SIERRA CLUB *Plaintiff(s)*	)	
v.	)	Civil Action No.
GINA MCCARTHY, in her official capacity as the Administrator of the United States Environmental Protection Agency *Defendant(s)*	)	

SUMMONS IN A CIVIL ACTION

To: *(Defendant's name and address)* Loretta E. Lynch
Attorney General of the United States
U.S. Department of Justice
950 Pennsylvania Avenue NW
Washington, DC 20530-0001

A lawsuit has been filed against you.

Within 21 days after service of this summons on you (not counting the day you received it) — or 60 days if you are the United States or a United States agency, or an officer or employee of the United States described in Fed. R. Civ. P. 12 (a)(2) or (3) — you must serve on the plaintiff an answer to the attached complaint or a motion under Rule 12 of the Federal Rules of Civil Procedure. The answer or motion must be served on the plaintiff or plaintiff's attorney, whose name and address are:

Sparsh Khandeshi
Environmental Integrity Project
1000 Vermont Ave. N.W., Suite 1100
Washington, D.C. 20005

If you fail to respond, judgment by default will be entered against you for the relief demanded in the complaint. You also must file your answer or motion with the court.

CLERK OF COURT

Date: _____

_____
Signature of Clerk or Deputy Clerk

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 $ 0.00 .

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:

Print Save As... Reset

AO 440 (Rev. 06/12) Summons in a Civil Action

UNITED STATES DISTRICT COURT

for the

District of Columbia

ENVIRONMENTAL INTEGRITY PROJECT, CHESAPEAKE CLIMATE ACTION NETWORK, PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC, and SIERRA CLUB *Plaintiff(s)*	)	
v.	)	Civil Action No.
GINA MCCARTHY, in her official capacity as the Administrator of the United States Environmental Protection Agency *Defendant(s)*	)	

SUMMONS IN A CIVIL ACTION

To: *(Defendant's name and address)* Channing D. Phillips, U.S. Attorney, District of Columbia
United States Attorney's Office
555 4th Street, NW
Washington, DC 20530

A lawsuit has been filed against you.

Within 21 days after service of this summons on you (not counting the day you received it) — or 60 days if you are the United States or a United States agency, or an officer or employee of the United States described in Fed. R. Civ. P. 12 (a)(2) or (3) — you must serve on the plaintiff an answer to the attached complaint or a motion under Rule 12 of the Federal Rules of Civil Procedure. The answer or motion must be served on the plaintiff or plaintiff's attorney, whose name and address are:

Sparsh Khandeshi
Environmental Integrity Project
1000 Vermont Ave. N.W., Suite 1100
Washington, D.C. 20005

If you fail to respond, judgment by default will be entered against you for the relief demanded in the complaint. You also must file your answer or motion with the court.

CLERK OF COURT

Date: _____

_____
Signature of Clerk or Deputy Clerk

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 $ 0.00 .

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:

Print Save As... Reset

Use the Tab key to move from field to field on this form.

CO-386-online
10/03

United States District Court
For the District of Columbia

ENVIRONMENTAL INTEGRITY PROJECT, CHESAPEAKE CLIMATE ACTION NETWORK, PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC., and SIERRA CLUB

Plaintiff

vs

GINA MCCARTHY, in her official capacity as the Administrator of the United States Environmental Protection Agency

Defendant

Civil Action No._____

CERTIFICATE RULE LCvR 7.1

I, the undersigned, counsel of record for ENVIRONMENTAL INTEGRITY PROJECT certify that to the best of my knowledge and belief, the following are parent companies, subsidiaries or affiliates of ENVIRONMENTAL INTEGRITY PROJECT which have any outstanding securities in the hands of the public:

None.

These representations are made in order that judges of this court may determine the need for recusal.

Attorney of Record

/s/ Sparsh Khandeshi
Signature

1000899
BAR IDENTIFICATION NO.

Sparsh Khandeshi
Print Name

1000 Vermont Avenue, NW, Suite 1100
Address

Washington, DC 20005
City State Zip Code

202-263-4446
Phone Number

Use the Tab key to move from field to field on this form.

CO-386-online
10/03

United States District Court
For the District of Columbia

ENVIRONMENTAL INTEGRITY PROJECT, CHESAPEAKE CLIMATE ACTION NETWORK, PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC., and SIERRA CLUB

Plaintiff

vs

GINA MCCARTHY, in her official capacity as the Administrator of the United States Environmental Protection Agency

Defendant

Civil Action No._____

CERTIFICATE RULE LCvR 7.1

I, the undersigned, counsel of record for CHESAPEAKE CLIMATE ACTION NETWORK certify that to the best of my knowledge and belief, the following are parent companies, subsidiaries or affiliates of CHESAPEAKE CLIMATE ACTION NETWORK which have any outstanding securities in the hands of the public:

None.

These representations are made in order that judges of this court may determine the need for recusal.

Attorney of Record

/s/ Sparsh Khandeshi
Signature

1000899
BAR IDENTIFICATION NO.

Sparsh Khandeshi
Print Name

1000 Vermont Avenue, NW, Suite 1100
Address

Washington, DC 20005
City State Zip Code

202-263-4446
Phone Number

Use the Tab key to move from field to field on this form.

CO-386-online
10/03

United States District Court
For the District of Columbia

ENVIRONMENTAL INTEGRITY PROJECT, CHESAPEAKE CLIMATE ACTION NETWORK, PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC., and SIERRA CLUB

Plaintiff

vs

GINA MCCARTHY, in her official capacity as the Administrator of the United States Environmental Protection Agency

Defendant

Civil Action No._____

CERTIFICATE RULE LCvR 7.1

I, the undersigned, counsel of record for PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC. certify that to the best of my knowledge and belief, the following are parent companies, subsidiaries or affiliates of PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC. which have any outstanding securities in the hands of the public:

None.

These representations are made in order that judges of this court may determine the need for recusal.

Attorney of Record

/s/ Sparsh Khandeshi
Signature

1000899
BAR IDENTIFICATION NO.

Sparsh Khandeshi
Print Name

1000 Vermont Avenue, NW, Suite 1100
Address

Washington, DC 20005
City State Zip Code

202-263-4446
Phone Number

Use the Tab key to move from field to field on this form.

CO-386-online
10/03

United States District Court
For the District of Columbia

ENVIRONMENTAL INTEGRITY PROJECT, CHESAPEAKE CLIMATE ACTION NETWORK, PHYSICIANS FOR SOCIAL RESPONSIBILITY, CHESAPEAKE, INC., and SIERRA CLUB

Plaintiff

vs

GINA MCCARTHY, in her official capacity as the Administrator of the United States Environmental Protection Agency

Defendant

Civil Action No._____

CERTIFICATE RULE LCvR 7.1

I, the undersigned, counsel of record for SIERRA CLUB certify that to the best of my knowledge and belief, the following are parent companies, subsidiaries or affiliates of SIERRA CLUB which have any outstanding securities in the hands of the public:

None.

These representations are made in order that judges of this court may determine the need for recusal.

Attorney of Record

/s/ Sparsh Khandeshi
Signature

1000899
BAR IDENTIFICATION NO.

Sparsh Khandeshi
Print Name

1000 Vermont Avenue, NW, Suite 1100
Address

Washington, DC 20005
City State Zip Code

202-263-4446
Phone Number