

BEFORE THE ADMINISTRATOR  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF	)	
	)	
WHEELABRATOR FRACKVILLE	)	
ENERGY, INC.	)	PETITION NO. III-2017-19
SCHUYLKILL COUNTY, PENNSYLVANIA	)	
	)	
PERMIT No. 54-00005	)	ORDER RESPONDING TO THE
	)	PETITIONER’S REQUEST THAT THE
ISSUED BY THE PENNSYLVANIA	)	ADMINISTRATOR OBJECT TO THE
DEPARTMENT OF ENVIRONMENTAL	)	ISSUANCE OF A STATE OPERATING
PROTECTION	)	PERMIT
	)	

---

**ORDER DENYING A PETITION FOR OBJECTION TO PERMIT**

**I. INTRODUCTION**

On December 4, 2017, the U.S. Environmental Protection Agency (EPA) received a petition (Petition) from the Sierra Club and the Environmental Integrity Project (the Petitioners), pursuant to section 505(b)(2) of the Clean Air Act (CAA or Act), 42 U.S.C. § 7661d(b)(2). The Petitioners request that the EPA object to a proposed renewal of air pollution control operating permit no. 54-00005 (the Proposed Permit or Permit) prepared by the Pennsylvania Department of Environmental Protection (PADEP) for the operation of the Wheelabrator Frackville Energy, Inc. Facility (Wheelabrator or the Facility) in Schuylkill County, Pennsylvania. The Permit was proposed pursuant to title V of the CAA, CAA §§ 501–507, 42 U.S.C. §§ 7661–7661f, and 25 Pa. Code §§ 127.501–127.543. *See also* 40 C.F.R. part 70 (title V implementing regulations). This type of operating permit is also referred to as a title V permit or part 70 permit.

As explained further below, based on a review of the Petition and other relevant materials, including the Proposed Permit, the permit record, and relevant statutory and regulatory authorities, the EPA denies the Petition.

**II. STATUTORY AND REGULATORY FRAMEWORK**

**A. Title V Permits**

Section 502(d)(1) of the CAA, 42 U.S.C. § 7661a(d)(1), requires each state to develop and submit to the EPA an operating permit program to meet the requirements of title V of the CAA and the EPA’s implementing regulations at 40 C.F.R. part 70. The Commonwealth of Pennsylvania submitted a title V program governing the issuance of operating permits on May 18, 1995. The EPA granted full approval of Pennsylvania’s title V operating permit program in 1996. *See Clean*

Air Act Final Full Approval of Operating Permits Program; Final Approval of Operating Permit and Plan Approval Programs Under Section 112(l); Final Approval of State Implementation Plan Revision for the Issuance of Federally Enforceable State Plan Approvals and Operating Permits Under Section 110; Commonwealth of Pennsylvania, 61 Fed. Reg. 39597 (July 30, 1996) (codified at 40 C.F.R. § 52.2020(c)). This program, which became effective on August 29, 1996, is codified at 25 Pa. Code §§ 127.501–127.543.

All major stationary sources of air pollution and certain other sources are required to apply for title V operating permits that include emission limitations and other conditions as necessary to assure compliance with applicable requirements of the CAA, including the requirements of the applicable implementation plan. CAA §§ 502(a), 504(a), 42 U.S.C. §§ 7661a(a), 7661c(a). The title V operating permit program generally does not impose new substantive air quality control requirements, but does require permits to contain adequate monitoring, recordkeeping, reporting and other requirements to assure sources' compliance with applicable requirements. 57 Fed. Reg. 32250, 32251 (July 21, 1992); *see* CAA § 504(c), 42 U.S.C. § 7661c(c). One purpose of the title V program is to “enable the source, States, the EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements.” *Id.* Thus, the title V operating permit program is a vehicle for ensuring that air quality control requirements are appropriately applied to facility emission units and for assuring compliance with such requirements.

## **B. Review of Issues in a Petition**

State and local permitting authorities issue title V permits pursuant to their EPA-approved title V programs. Under CAA § 505(a), 42 U.S.C. § 7661d(a), and the relevant implementing regulations found at 40 C.F.R. § 70.8(a), states are required to submit each proposed title V operating permit to the EPA for review. Upon receipt of a proposed permit, the EPA has 45 days to object to final issuance of the proposed permit if the EPA determines that the proposed permit is not in compliance with applicable requirements under the Act. CAA § 505(b)(1), 42 U.S.C. § 7661d(b)(1); *see also* 40 C.F.R. § 70.8(c). If the EPA does not object to a proposed permit on its own initiative, any person may petition the Administrator, within 60 days of the expiration of the EPA's 45-day review period, to object to the permit. CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(d).

The petition 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). CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(d). In response to such a petition, the Act requires the Administrator to issue an objection if a petitioner demonstrates that a permit is not in compliance with the requirements of the Act. CAA § 505(b)(2), 42 U.S.C.

§ 7661d(b)(2); 40 C.F.R. § 70.8(c)(1).<sup>1</sup> Under section 505(b)(2) of the Act, the burden is on the petitioner to make the required demonstration to the EPA.<sup>2</sup>

The petitioner's demonstration burden is a critical component of CAA § 505(b)(2). As courts have recognized, CAA § 505(b)(2) requires that the Administrator (i) determine whether a petition "demonstrates" that a permit is not in compliance with the requirements of the Act, which the courts describe as a "discretionary duty"; and (ii) object when such a demonstration is made, which the courts describe as a nondiscretionary duty. *Sierra Club v. Johnson*, 541 F.3d at 1265-66 ("[I]t is undeniable that CAA § 505(b)(2) also contains a discretionary component: it requires the Administrator to make a judgment of whether a petition demonstrates a permit does not comply with clean air requirements."); *NYPIRG*, 321 F.3d at 333. Courts have also made clear that the Administrator is obligated to grant a petition to object under CAA § 505(b)(2) only if the Administrator determines that the petitioner has demonstrated that the permit is not in compliance with requirements of the Act. *Citizens Against Ruining the Environment*, 535 F.3d at 677 (stating that § 505(b)(2) "clearly obligates the Administrator to (1) determine whether the petition demonstrates noncompliance and (2) object *if* such a demonstration is made") (emphasis added).<sup>3</sup> When courts have reviewed the EPA's interpretation of the ambiguous term "demonstrates" and its determination as to whether the demonstration has been made, they have applied a deferential standard of review. *See, e.g., MacClarence*, 596 F.3d at 1130-31.<sup>4</sup> Certain aspects of the petitioner's demonstration burden are discussed below; however, a more detailed discussion can be found in *In the Matter of Consolidated Environmental Management, Inc., Nucor Steel Louisiana*, Order on Petition Nos. VI-2011-06 and VI-2012-07 at 4-7 (June 19, 2013) (*Nucor II Order*).

The EPA has looked at a number of criteria in determining whether a petitioner has demonstrated noncompliance with the Act. *See generally Nucor II Order* at 7. For example, one such criterion is whether the petitioner has addressed the state or local permitting authority's decision and reasoning. The EPA expects the petitioner to address the permitting authority's final decision, and the permitting authority's final reasoning—including the Response to Comments (RTC) where these documents were available during the timeframe for filing the petition. *See MacClarence*, 596 F.3d at 1132-33.<sup>5</sup> Another factor the EPA has examined is whether a

---

<sup>1</sup> *See also New York Public Interest Research Group, Inc. v. Whitman*, 321 F.3d 316, 333 n.11 (2d Cir. 2003) (*NYPIRG*).

<sup>2</sup> *WildEarth Guardians v. EPA*, 728 F.3d 1075, 1081-82 (10th Cir. 2013); *MacClarence v. EPA*, 596 F.3d 1123, 1130-33 (9th Cir. 2010); *Sierra Club v. EPA*, 557 F.3d 401, 405-07 (6th Cir. 2009); *Sierra Club v. Johnson*, 541 F.3d 1257, 1266-67 (11th Cir. 2008); *Citizens Against Ruining the Environment v. EPA*, 535 F.3d 670, 677-78 (7th Cir. 2008); *cf. NYPIRG*, 321 F.3d at 333 n.11.

<sup>3</sup> *See also Sierra Club v. Johnson*, 541 F.3d at 1265 ("Congress's use of the word 'shall' . . . plainly mandates an objection *whenever* a petitioner demonstrates noncompliance.") (emphasis added).

<sup>4</sup> *See also Sierra Club v. Johnson*, 541 F.3d at 1265-66; *Citizens Against Ruining the Environment*, 535 F.3d at 678.

<sup>5</sup> *See also, e.g., In the Matter of Noranda Alumina, LLC*, Order on Petition No. VI-2011-04 at 20-21 (December 14, 2012) (denying a title V petition issue where petitioners did not respond to the state's explanation in response to comments or explain why the state erred or the permit was deficient); *In the Matter of Kentucky Syngas, LLC*, Order on Petition No. IV-2010-9 at 41 (June 22, 2012) (denying a title V petition issue where petitioners did not acknowledge or reply to the state's response to comments or provide a particularized rationale for why the state erred or the permit was deficient); *In the Matter of Georgia Power Company*, Order on Petitions at 9-13 (January 8, 2007)

petitioner has provided the relevant analyses and citations to support its claims. If a petitioner has not, the EPA is left to work out the basis for petitioner's objection, contrary to Congress's express allocation of the burden of demonstration to the petitioner in CAA § 505(b)(2). *See MacClarence*, 596 F.3d at 1131 (“[T]he Administrator's requirement that [a title V petitioner] support his allegations with legal reasoning, evidence, and references is reasonable and persuasive.”).<sup>6</sup> Relatedly, the EPA has pointed out in numerous orders that, in particular cases, general assertions or allegations did not meet the demonstration standard. *See, e.g., In the Matter of Luminant Generation Co., Sandow 5 Generating Plant*, Order on Petition No. VI-2011-05 at 9 (January 15, 2013).<sup>7</sup> Also, the failure to address a key element of a particular issue presents further grounds for the EPA to determine that a petitioner has not demonstrated a flaw in the permit. *See, e.g., In the Matter of EME Homer City Generation LP and First Energy Generation Corp.*, Order on Petition Nos. III-2012-06, III-2012-07, and III-2013-02 at 48 (July 30, 2014) (*EME Homer City Order*).<sup>8</sup>

The information that the EPA considers in making a determination whether to grant or deny a petition submitted under 40 C.F.R. § 70.8(d) on a proposed permit generally includes, but is not limited to, the administrative record for the proposed permit and the petition, including attachments to the petition. The administrative record for a particular proposed permit includes the draft and proposed permits; any permit applications that relate to the draft or proposed permits; the statement of basis for the draft and proposed permits; the permitting authority's written responses to comments, including responses to all significant comments raised during the public participation process on the draft permit; relevant supporting materials made available to the public according to 40 C.F.R. § 70.7(h)(2); and all other materials available to the permitting authority that are relevant to the permitting decision and that the permitting authority made available to the public according to § 70.7(h)(2). If a final permit and a statement of basis for the final permit are available during the agency's review of a petition on a proposed permit, those documents may also be considered as part of making a determination whether to grant or deny the petition.

### **III. BACKGROUND**

#### **A. Pollutants**

The Petition concerns monitoring for particulate matter (PM or particulates) emissions from a boiler at the Facility. “Particulate matter” refers to a mixture of solid particles and liquid droplets

---

(*Georgia Power Plants Order*) (denying a title V petition issue where petitioners did not address a potential defense that the state had pointed out in the response to comments).

<sup>6</sup> *See also In the Matter of Murphy Oil USA, Inc.*, Order on Petition No. VI-2011-02 at 12 (September 21, 2011) (denying a title V petition claim where petitioners did not cite any specific applicable requirement that lacked required monitoring); *In the Matter of Portland Generating Station*, Order on Petition at 7 (June 20, 2007) (*Portland Generating Station Order*).

<sup>7</sup> *See also Portland Generating Station Order* at 7 (“(C)onclusory statements alone are insufficient to establish the applicability of [an applicable requirement].”); *In the Matter of BP Exploration (Alaska) Inc. Gathering Center # I*, Order on Petition Number VII-2004-02 at 8 (April 20, 2007); *Georgia Power Plants Order* at 9-13; *In the Matter of Chevron Products Co. Richmond, Calif. Facility*, Order on Petition No. IX-2004-10 at 12, 24 (March 15, 2005).

<sup>8</sup> *See also In the Matter of Hu Honua Bioenergy*, Order on Petition No. IX-2011-1 at 19-20 (February 7, 2014); *Georgia Power Plants Order* at 10.

found in the air. Three size-related indicators of PM are commonly used: Total Suspended Particulates (or TSP), which represents all sizes of PM; PM<sub>10</sub>, which includes inhalable particles with diameters that are generally 10 micrometers (µm) and smaller (by comparison, a human hair is, on average, about 70 µm in diameter); and PM<sub>2.5</sub>, which includes inhalable particles with diameters that are generally 2.5 µm and smaller.

PM can be emitted directly (“primary” particles) or formed in the atmosphere from chemical reactions involving primary gas emissions (“secondary” particles). Primary particles include, for example, elemental carbon from combustion sources. Secondary particles include sulfates formed from sulfur dioxide emissions and nitrates formed from nitrogen oxides released from power plants and other sources. Primary PM is referred to as the “filterable” fraction of PM, and secondary PM is referred to as the “condensable” fraction.

## **B. The Wheelabrator Frackville Energy Facility**

The Facility is a 48-megawatt cogeneration power plant located in Schuylkill County, Pennsylvania. The Facility burns waste anthracite coal (culm) as its primary fuel in a circulating fluidized bed (CFB) boiler, which is referred to in the Proposed Permit and Petition as Source ID 031 (CFB boiler or Source 031). A turbine generator uses the steam created from the CFB boiler to generate electricity for sale to the local utility. A portion of the steam generated from the CFB boiler is sent to the Frackville Correctional Institution, where it is used for heating, cooking, and hot water. The unit is equipped with a fabric filter baghouse for control of PM emissions. The Facility is independently owned by Wheelabrator Technologies, Inc.

## **C. Permitting History**

PADEP issued an initial title V operating permit for the Facility on May 7, 1999. The permittee operated under a renewal Title V permit issued November 28, 2007, until that permit was replaced by a renewal permit issued as final on December 22, 2017. This Petition concerns the proposed version of that permit submitted to EPA on September 1, 2017.

On September 14, 2009, PADEP received a Title V permit renewal application for the Facility, which was submitted pursuant to 40 C.F.R. § 70.8(a)(1) and 25 Pa. Code § 127.522(a). On May 21, 2016, PADEP initiated a 30-day public comment period on the draft renewal permit through publication of notice in the *Pennsylvania Bulletin*.<sup>9</sup> By letter dated June 20, 2016, the Petitioners submitted comments on the draft renewal permit. PADEP sent a draft of the permit to the EPA on July 6, 2016. On October 15, 2016, pursuant to section 505(b)(2) of the CAA, 42 U.S.C. § 7661d(b)(2), the Petitioners submitted to the EPA a petition (the 2016 Petition) to object to the July 6, 2016, version of the renewal permit. On September 1, 2017, after making some revisions to the July 6, 2016, version of the permit, PADEP submitted the Proposed Permit to the EPA, initiating a 45-day review period which ended on October 17, 2017. The Proposed Permit was accompanied by an Application Review Memo (ARM) dated August 31, 2017, setting forth PADEP’s explanation and rationale for certain requirements contained in the Proposed Permit. On September 16, 2017, PADEP published notice of the Proposed Permit in

---

<sup>9</sup> 46 Pa.B. 2562 (May 21, 2016), available at <http://www.pabulletin.com/secure/data/vol46/46-21/868a.html>.

the *Pennsylvania Bulletin*.<sup>10</sup> By Order dated October 6, 2017, the EPA Administrator denied the 2016 Petition as moot on the basis of the superseding Proposed Permit submitted to EPA on September 1, 2017. *See In the Matter of Wheelebrator Frackville Energy, Inc.*, Order on Petition No. III-2016-17 at 10 (October 6, 2017). On October 11, 2017, the Petitioners submitted comments to PADEP on the Proposed Permit (October 2017 Comments). By letter dated January 11, 2018, PADEP responded to the Petitioners' October 2017 Comments (the Response to Comments or RTC document).<sup>11</sup> PADEP has issued a final Permit for the Facility, which became effective on December 22, 2017 (the Final Permit).

#### **D. Timeliness of Petition**

Pursuant to the CAA, if the EPA does not object to a proposed permit during its 45-day review period, any person may petition the Administrator within 60 days after the expiration of the 45-day period. CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2). The EPA's 45-day review period for the Proposed Permit expired on October 17, 2017. Thus, any petition seeking the EPA's objection to the Proposed Permit was due on or before December 18, 2017. The Petitioners filed their Petition on December 4, 2017. Therefore, the EPA finds that the Petitioners timely filed the Petition.

### **IV. DETERMINATION ON THE PETITION**

The Petitioners have requested that the Administrator object to the Permit because, according to the Petitioners' contentions, the Permit does not comply with the CAA, the implementing regulations at 40 C.F.R. part 70, and related state regulations, in that the Permit fails to include monitoring of PM emissions from the CFB boiler sufficient to assure compliance with the Permit's applicable PM emission limitation. For the reasons explained below, the EPA denies the Petitioners' request for an objection on these claims.

#### **A. Issues Raised in the Petition**

The Petitioners raise three issues with the PM monitoring requirements in the Proposed Permit, relying on the "periodic" and "umbrella" monitoring rules" set forth at 40 C.F.R. §§ 70.6(a)(3)(i) and (c)(1). Petition at 3. The Petitioners cite to the "periodic" monitoring requirement of 40 C.F.R. § 70.6(a)(3)(i)(B), which requires that "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.'" *Id.* The Petitioners contend that "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, to the permitting authority, and to the public." *Id.* The Petitioners also cite the "umbrella" monitoring rule set forth at 40 C.F.R. § 70.6(a)(3)(i)(C) and assert such requirement makes clear that "permit writers must also correct 'a periodic monitoring requirement inadequate to the task of assuring compliance.'" *Id.* (quoting *Sierra Club v. EPA*, 536 F.3d 673, 675 (D.C. Cir. 2008)). Under this framework, the Petitioners raise three specific claims. Because these claims include substantially

---

<sup>10</sup> 47 Pa.B. 5795 (September 16, 2017), available at <http://www.pabulletin.com/secure/data/vol47/47-37/1522a.html>.

<sup>11</sup> The Petition asserts that "DEP has not provided an RTC document to Sierra Club and EIP responding to Petitioners' comments regarding the deficiencies in this revised 2017 Proposed Permit." Petition at 7. PADEP's January 11, 2018, RTC responds to such comments. Therefore, Petitioners' contention as to PADEP's failure to provide an RTC document is moot.

overlapping issues that all relate to the adequacy of PM monitoring at the CFB boiler, EPA's analysis and response in Section IV.B below will address all three issues together.

**Claim 1: The Petitioners Claim That Biannual Stack Testing of PM Emissions From the CFB Boiler Is Inadequate**

The Petitioners first take issue with the direct monitoring and testing requirement of PM emissions from the CFB boiler, identified as Source 031 in the Permit: "Permit Section D.II., Source 031, Condition #011 requires source testing to determine the post-control emissions of total PM from Wheelabrator's CFB boiler within 180 days after issuance of the permit and biannually thereafter." Petition at 2. The Petitioners assert that the biannual stack testing required in Condition #011 is "too infrequent and inadequate testing of PM emissions" from the CFB boiler to assure compliance with "the continuous 0.012 lbs/MMBtu PM emission limitation set forth in Permit Section D.I., Source 031, Condition #003." *Id.* at 2. The Petitioners assert that biannual stack testing of PM emissions from the CFB boiler "fails to satisfy the requirements of 40 C.F.R. part 70.6 because monitoring PM from the Plant's CFB boiler only once every two years is inadequate to assure compliance with the 0.012 lbs/MMBtu PM emission limit" set forth in the Permit.

**Claim 2: The Petitioners Claim That Secondary Indicators of the CFB Boiler's Baghouse Operation Are Inadequate**

Second, the Petitioners object to the adequacy of the "secondary performance indicators of proper baghouse operation." Petition at 2. These include a requirement that the Facility "operate and maintain its fabric filter baghouse," Petition at 2, and "the accompanying requirements to monitor opacity . . . and pressure drop differential." *Id.* The Petitioners assert that "(e)ven with the addition of these secondary indicators, the contemplated monitoring scheme for PM emissions from the Plant's boiler is inadequate." *Id.* The Petitioners claim that these other monitoring requirements fail to meet the requirements of 40 C.F.R. Part 70.6 because such requirements "are insufficient to yield reliable data from the relevant time period that are representative of compliance with the Permit's lbs/MMBtu PM limit for the Plant's CFB boiler." *Id.* at 4. According to the Petitioners, "although secondary performance indicators (e.g. opacity and pressure differential) *may* indicate whether the baghouse is performing optimally, they will not necessarily assure compliance with the applicable continuous emission limit for PM." *Id.* at 6. Specifically, Petitioner's challenge that "employing only one baghouse process parameter – pressure drop differential – is ineffective in assuring sufficient PM control and compliance with the permit's PM emissions limit." *Id.* at 4. The Petitioners argue that "monitoring of pressure drop does not guarantee compliance with Wheelabrator's PM emissions limit because not all baghouse malfunctions that would increase particulate emissions will be detected by monitoring pressure differential." *Id.* at 4–5. The Petitioners contend that the Permit should include additional parametric monitoring requirements "which would be most reflective of baghouse performance (e.g. fan amperage, gas flow rate, inlet temperature of the baghouses)." *Id.* at 5.

The Petitioners further argue that "the proposed *twenty-four hour averaging* period for the pressure drop indicator is far too long to ensure proper particulate control and compliance with the Plant's *continuous* PM emission limit." *Id.* Citing 40 C.F.R. § 70.6(a)(3)(i)(B), the Petitioners

contend that “the recorded pressure drop range should not be based on a 24-hour daily average as it is meant to assure compliance with an emissions limit applicable on a continuous basis.” *Id.* Lastly, the Petitioners assert that the “the Proposed Permit’s treatment of excursions from its secondary indicator ranges fails to assure compliance with, and enforcement of, the applicable PM emissions limit.” *Id.* The Petitioners claim that “(a)ny excursion from the secondary indicator ranges should be considered a violation of the applicable PM emissions limit” and “additional PM stack testing should be promptly required following any excursion to determine actual compliance status of the source.” *Id.*

**Claim 3: The Petitioners Claim That Continuous, Direct PM Emissions Monitoring From the CFB Boiler Is Necessary**

Third, the Petitioners argue that either: a) “installation and operation of a [CEMS] for PM is the proper means of accurately monitoring such emissions,” Petition at 6; or b) “if direct continuous PM emissions monitoring is not required in the final permit, quarterly stack testing for the unit’s PM emissions limits, combined with a more robust set of secondary performance indicator [sic] for the unit’s fabric filter baghouse, must be required.” *Id.* In support of their argument, the Petitioners cite the following five-factor analysis previously applied by the EPA for determining the adequacy of a Title V permit monitoring requirement: “(1) variability of emissions from the unit in question; (2) likelihood of violation of the requirements; (3) whether add-on controls are being used for the unit to meet the emission limit; (4) the type of monitoring, process, maintenance, or control equipment data already available for the emission unit, and (5) the type and frequency of the monitoring requirements for similar emission units at other facilities.” Petition at 5–6 (citing *EME Homer City Order* at 45; *In the Matter of Tennessee Valley Authority, Bull Run, Clinton, Tennessee*, Order on Petition No. IV-2015-14 at 8 (November 10, 2016) (*Bull Run Order*)). In applying this analysis, the Petitioners assert that considering “factors (1) and (3) together, the variability of emissions, especially as they relate to add-on controls used by Wheelabrator, strongly support more frequent stack testing and continuous PM monitoring from the Plant’s CFB boiler.” Petition at 6.

Specifically, the Petitioners point to alleged variability in the emissions from the unit in question, and the unit’s use of add-on controls (in this case, a fabric filter baghouse) to meet its emission limit. *Id.* The Petitioners also claim, although without citing examples, that a continuous emissions monitoring system (CEMS) for PM is “increasingly employed” for similar emission units at other facilities. *Id.* Considering these factors, the Petitioners allege that installation and continuous operation of a PM CEMS, is the proper means of monitoring emissions from the CFB boiler. *Id.* at 6. The Petitioners further argue that “stack tests are mere snapshots in time which do not indicate system performance during periods outside of the tests.” *Id.* Therefore, the biannual stack test requirement would be likely to miss variability in rates of emissions and operation of the add-on pollution control such that “the extreme infrequency of this already subpar testing method simply cannot assure compliance with the Plant’s continuous PM emission limit.” *Id.* As an alternative to direct, continuous PM emissions monitoring, the Petitioners argue that the Permit must require a combination of monitoring measures: quarterly stack testing to



determine the CFB boiler's PM emissions and "a more robust set" of secondary performance indicators for the CFB boiler's fabric filter baghouse. *Id.*

## **B. Analysis of Issues Raised in the Petition**

### **1. Proposed and Final Permit Provisions**

The Petitioners challenge the adequacy of the Proposed Permit provisions requiring PM emissions monitoring from the CFB Boiler. The Permit's Site Inventory List identifies the CFB boiler as Source 031. *See* Proposed Permit at 4. The source-specific provisions are set forth in Section D of the Permit.

The Petitioners' central argument is that the Proposed Permit provisions are inadequate to assure compliance with the continuous PM emissions limitation for the CFB boiler set forth at Permit Section D, Source 031, Section I (Restrictions, Emission Restrictions), Condition #003 (Permit Condition D, Source 031, #003):

#### **# 003 [25 Pa. Code §127.441]**

##### **Operating permit terms and conditions.**

[Authority for this condition is also derived from 25 Pa. Code, Section 127.83 and 40 CFR Part 52, Section 52.21 (j)(2) for Control Technology Review. This condition also assures compliance with NSPS, Subpart 60.42Da(a) and 25 Pa. Code, Section 123.11(a)(2).]

The concentration of Particulate Matter (expressed as TSP [total suspended particulates]) in the effluent gases from CFB boiler shall not exceed 0.012 pounds per million BTU heat input.

When demonstrating source emission testing compliance with this limit, the Particulate Matter (expressed as TSP) is the "filterable" particulates (front-half) emissions.

Proposed Permit at 23.

PM emissions from the CFB boiler are controlled by a baghouse. Section D, Source 031, Section VI (Work Practice Requirements), Condition #046 (Operating permit terms and conditions) requires, "Control device C01 (baghouse) shall be operated at any time Source ID 031 is in use."

The biannual monitoring provision challenged by the Petitioners is found at Section D, Source 031, Section II (Testing Requirements), Condition #011 (Permit Condition D, Source 031, #011):

#### **# 011 [25 Pa. Code §127.441]**

##### **Operating permit terms and conditions.**

1. Within 180 days after issuance of this permit (or a letter or a notice), the permittee shall conduct source testing on the exhaust of Source ID 031 to determine the post-control emissions of total particulate matter (filterable and condensable).
2. Every two (2) years, the permittee shall conduct source testing to determine the post-control emissions of total particulate matter (filterable and condensable). (Note: if a permit limit exists for PM-10 and/or PM-2.5, the Department may require additional testing for PM-10 and/or PM-2.5 compliance demonstration.)

Proposed Permit at 29.

The Petition also challenges the secondary baghouse operation performance indicator provisions set forth in the Proposed Permit. The Proposed and Final Permit provisions establishing secondary baghouse operation performance indicators relating to opacity and pressure drop differential are in Section D, Source 031, Section IV (Recordkeeping Requirements), Condition #36(a)–(c) and Condition #48(a). After receiving the Petitioners’ comments, PADEP revised the challenged provisions such that the excursion of the pressure drop is defined as an 8-hour block average pressure drop outside of the pressure drop range rather than a 24-hour block. This was the only material change between the Proposed and Final Permits relevant to the Petition. The Petition challenged the adequacy of these Permit conditions prior to this revision and the issuance of the RTC. The EPA will proceed to evaluate the Petition in this regard on the basis of the Final Permit and RTC, rather than the Proposed Permit, and presents the Final Permit provisions here:

**#036 [25 Pa. Code §127.511]**

**Monitoring and related recordkeeping and reporting requirements.**

[Additional authority for permit conditions (a)-(d) is also derived from 40 CFR §64.9.]

- (a) The permittee shall continuously record opacity readings using the data acquisition system (DAS).
- (b) The permittee shall record the pressure drop range based on an 8-hour block average. The average will be recorded in the plant control room or CEM data system and the record will be maintained for a minimum five (5) year period.
- (c) The permittee shall record all excursions and corrective actions taken in response to an excursion and the time elapsed until the corrective actions have been taken. . . .

Final Permit at 43.

**#048 [25 Pa. Code §127.511]**

**Monitoring and related recordkeeping and reporting requirements.**

[Additional authority for permit condition (a) is also derived from 40 CFR §64.3 & §64.6.]

- (a) The permittee shall adhere to the following ranges so that operation within the ranges shall provide reasonable assurance of compliance. A departure from the specified indicator range shall be defined as an excursion:
  - (1) The range of the COM [continuous opacity monitoring] is 0 to 100 percent (%) opacity. An excursion is defined as an hourly opacity average greater than 5%.
  - (2) Pressure drop range of 4-10 inches w.g. An excursion is defined as an 8-hour block average pressure drop outside of the pressure drop range.

Final Permit at 49.

**#014 [25 Pa. Code §127.441]**

**Operating permit terms and conditions.**

§63.10005 What are my initial compliance requirements and by what date must I conduct them?

(h) Low emitting EGUs. The provisions of this paragraph (h) apply to pollutants with emissions limits from new EGUs except Hg and to all pollutants with emissions limits from existing EGUs. You may pursue this compliance option unless prohibited pursuant to §63.10000(c)(1)(i).

(1) An EGU may qualify for low emitting EGU (LEE) status for Hg, HCL, HF, filterable PM, total non-Hg HAP metals, or individual non-Hg HAP metals (or total HAP metals or individual HAP metals, for liquid oil-fired EGUs) if you collect performance test data that meet the requirements of this paragraph (h), and if those data demonstrate:

(i) For all pollutants except Hg, performance test emissions results less than 50 percent of the applicable emissions limits in Table 1 or 2 to this subpart for all required testing for 3 consecutive years . . . .

Final Permit at 33.

**#054 [25 Pa. Code §127.441]**

**Operating permit terms and conditions.**

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

(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.

(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.

Final Permit at 50–51.

2. Legal Background for Monitoring Requirements

The EPA has described the title V monitoring requirements in detail in several orders, including recently in *In the Matter of Raven Power Fort Smallwood, LLC, Fort Smallwood Complex, Anne Arundel County, Maryland*, Order on Petition No. III-2017-3 at 12–13 (January 17, 2018) (*Fort Smallwood Order*). See also *Bull Run Order* at 7–9.

The applicable statutory and regulatory requirements are as follows: The CAA requires that “[e]ach permit issued under [title V] shall set forth . . . monitoring . . . requirements to assure compliance with the permit terms and conditions.” CAA § 504(c), 42 U.S.C. § 7661c(c). The EPA’s part 70 monitoring rules (40 C.F.R. §§ 70.6(a)(3)(i)(A), 70.6(a)(3)(i)(B), and 70.6(c)(1)) satisfy this statutory requirement. As the EPA stated in *In the Matter of CITGO Refining and Chemicals Co., L.P., West Plant, Corpus Christi, Tx.*, Order on Petition No. VI-2007-01 at 6–7 (May 28, 2009) (*CITGO Order*), and reaffirmed in the *Fort Smallwood Order*:

As a general matter, authorities must take three steps to satisfy the monitoring requirements in EPA's part 70 regulations. First, under 40 C.F.R. § 70.6(a)(3)(i)(A), permitting authorities must ensure that monitoring requirements contained in applicable requirements are properly incorporated into the title V permit. Second, if the applicable requirement contains no periodic monitoring, permitting authorities must 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). Third, if there is some periodic monitoring in the applicable requirement, but that monitoring is not sufficient to assure compliance with permit terms and conditions, permitting authorities must supplement monitoring to assure such compliance. 40 C.F.R. § 70.6(c)(1). EPA notes that periodic monitoring that meets the requirements of 40 C.F.R. § 70.6(a)(3)(i)(B) will be sufficient to satisfy the requirements of 40 C.F.R. § 70.6(c)(1) (i.e., will be sufficient to assure compliance with permit terms and conditions). In addition, in many cases, monitoring from applicable requirements will be sufficient to assure compliance with permit terms and conditions. For example, monitoring established consistent with EPA's Compliance Assurance Monitoring (CAM) rule (40 C.F.R. part 64) will be sufficient to assure compliance with permit terms and conditions, thus meeting the requirements of 40 C.F.R. § 70.6(c)(1).

*Fort Smallwood Order* at 12. See also *In the Matter of Public Service of New Hampshire*, Order on Petition No. VI-2014-04 at 14 (July 28, 2015); *Homer City Order* at 45.

As the EPA further noted in the *Fort Smallwood Order*:

In addition, the rationale for the monitoring requirements selected by a permitting authority must be clear and documented in the permit record. 40 C.F.R. § 70.7(a)(5). The determination of whether monitoring is adequate in a particular circumstance generally is a context-specific determination, made on a case-by-case basis. The analysis should begin by assessing whether the monitoring required in the applicable requirement is sufficient to assure compliance with permit terms and conditions. Some factors that permitting authorities may consider in determining appropriate monitoring are: (1) the variability of emissions from the unit in question; (2) the likelihood of a violation of the requirements; (3) whether add-on controls are being used for the unit to meet the emission limit; (4) the type of monitoring, process, maintenance, or control equipment data already available for the emission unit; and (5) the type and frequency of the monitoring requirements for similar emission units at other facilities. Other site-specific factors may also be considered.

*Fort Smallwood Order* at 12–13 (citing *Homer City Order* at 45; *CITGO Order* at 6–8).

### 3. EPA Response

For the following reasons, the EPA denies the Petitioners' request for an objection on the adequacy of the PM emissions monitoring requirements for the CFB boiler as set forth in the Permit.

The Petitioners' challenge focuses on the frequency of the stack tests and the adequacy of the two baghouse operation performance indicators, pressure drop and opacity, in combination with the requirement to operate the baghouse at all times the CFB boiler is in operation. However, the Petitioners failed to demonstrate that these PM monitoring provisions, and other provisions of the Proposed Permit they did not discuss in their Petition, when viewed as a whole and in the context of the entire permit, are inadequate to assure compliance with the PM emission limit for the CFB boiler. The above description of the applicable legal requirements makes clear that determining whether the monitoring requirements in a permit for a particular source, such as the Facility's CFB boiler, are adequate to assure compliance requires a context-specific inquiry that depends on a multi-factor assessment concerning the source's emissions and controls as well as its permit. The Petitioners who allege that monitoring requirements are not adequate carry the burden of demonstrating that inadequacy.

The EPA has previously determined a multi-pronged approach for assuring compliance with emission standards without the use of CEMS, such as what this permit contains, may be adequate. *See In the Matter of Gallatin Fossil Plant*, Order on Petition No. IV-2016-11 and IV-2017-17 at 14 (January 30, 2018) (*Gallatin Order*) (citing *In the Matter of Xcel Energy, Cherokee Station*, Order on Petition No. VIII-2010-XX at 11–12 (September 29, 2011)) (*Cherokee Station Order*) (finding adequate a three-pronged approach for assuring compliance including stack testing, proper operation and maintenance of the control device, and a CAM plan to assess performance of the control device on an ongoing basis). Similar to the Gallatin and Cherokee Station permits, the Proposed Permit requires a three-pronged approach for assuring compliance with the PM emissions limit including: (1) stack testing; (2) required continuous operation and maintenance of the control device, which is a baghouse; and (3) two mechanisms for assessing the performance of the baghouse on an ongoing basis using a continuous opacity monitoring system (COMS) and monitoring pressure differential.

Notably, the Petitioners do not provide a single example of another facility, much less a facility with a source or sources similar to this one, for which a compliance assurance monitoring regime, such as the one in this Permit, was found to be inadequate. *Cf.* Petition at 4–6; Sierra Club and EIP Comments at 3–5. Nor did the Petitioners cite any similar sources for which a CEMS is required for PM under the CAM regulations.

In evaluating the Petitioners' claims, EPA also considers the adequacy of the permitting authority's rationale in the permitting record, including the RTC document. 40 C.F.R. § 70.7(a)(5); *Fort Smallwood Order* at 14; *Bull Run Order* at 8. The Petitioners did not respond to the reasoning set forth by PADEP in the administrative record for the Proposed Permit. PADEP's ARM (August 31, 2017) provided the state agency's rationale for why the multi-pronged approach for PM emissions monitoring for Source 031 (i.e., the CFB boiler) was adequate. Each of the PM emission monitoring elements challenged by the Petitioners is explained in PADEP's ARM as follows:

The CAM plan utilizes a three-pronged approach for assuring compliance with the BACT 0.012 lb/MMBtu particulate matter limit:

- (1) Performance testing to demonstrate that the specified limit is being met;
- (2) operation and maintenance of the fabric filter to ensure that it continues to operate properly; and,
- (3) a CAM plan, to provide a mechanism for assessing the performance of the fabric filter on an ongoing basis. The CAM monitoring sets specific indicators that are used to monitor the operation of the control device. Under the CAM requirements, ranges are specified for the indicators and operation of the unit outside of the indicator range is subject to investigation, and, if applicable, corrective action in addition to reporting requirements. For Source ID 031, these indicators are for opacity and pressure differential. The annual<sup>12</sup> stack test provides direct evidence of compliance and provided the fabric filter is properly operated and maintained, continued compliance with the standard is expected. All three prongs together are appropriate measures to assure compliance with the PM emission limitation.

The baghouse pressure drop range and monitoring requirement is included as a secondary performance indicator in the existing CAM plan to ensure proper operation of the baghouse to ensure that particulate limit is being continuously achieved. A company review of pressure drop data for 2016 and 2017 indicated a 24 hour average pressure drop in the range of 4–10 inches water. Pressure drop will vary depending on boiler load, during soot blowing, with combustion air flow changes related to fuel quality (heating value) and baghouse cleaning cycle efficiency. Such pressure drop variability has no impact on baghouse performance or control efficiency-especially with the Gore-Tex Teflon membrane bags used in the baghouse. Therefore, the permittee has proposed a pressure drop range of 4–10 inches water based on 24 hour daily average. The daily average will be recorded in the plant control room or CEM data system and record maintained for minimum five (5) year period. A daily average pressure reading outside the range would be considered an excursion. Also, consistent with an opacity excursion in the existing CAM Plan, the permittee proposes that if there are 6 or more pressure drop excursions in 6 month period, a quality improvement plan (QIP) would be developed and implemented as soon as practical or within 60 days.

ARM at 3.

PADEP's ARM discusses its approach in developing PM monitoring for Source 031, which is based on the EPA's CAM Regulation, 40 C.F.R. part 64. The Petitioners do not demonstrate a flaw in PADEP's reasoning that the requirement for operation of the baghouse coupled with parametric monitoring to confirm its proper operation, and combined with periodic stack testing of actual emissions, is not adequate to assure compliance with the PM emission limit. *See Gallatin Order* at 15. The Petitioners assert that monitoring of pressure drop by itself is inadequate because "not all baghouse malfunctions that would increase particulate emissions will

---

<sup>12</sup> Proposed Permit Section D.II, Condition #11(2) specifies testing every two years. Therefore, the EPA will treat this statement in the ARM as a typographical error, and proceed on the assumption that the source testing in the permit is biannual after the initial 180-day test, rather than annual.

be detected by monitoring pressure differential.” Petition at 5. However, the Petitioners do not provide examples of what such malfunctions might be. Further, this claim ignores that opacity is also being continuously monitored as a separate means of evaluating proper baghouse operation. Proposed Permit, Section D, Source 031, Section IV, Condition #48(a); ARM at 3.

The Petitioners assert that “the proposed *twenty-four hour averaging* period for the pressure drop indicator is far too long to ensure proper particulate control and compliance with the Plant’s *continuous* PM emission limit.” See Petition at 5. However, the Petitioners have not provided justification or analysis beyond a general assertion for why a 24-hour averaging period is inadequate especially considering the continuous opacity monitoring. See *Portland Generating Station Order* at 7. Nevertheless, addressing the Petitioners’ claim in the Petition, PADEP revised two Permit Conditions (Source ID 031, page 43, Monitoring and Recordkeeping requirements, Condition #036 (b) and Source ID 031, page 49, Monitoring and Recordkeeping requirements, Condition #048 (2)) requiring: a) “The permittee shall record the pressure drop range based on an 8-hour block average. The average will be recorded in the plant control room or CEM data system and the record will be maintained for a minimum five (5) year period”; and b) “Pressure drop range of 4 - 10 inches w.g. An excursion is defined as an 8-hour block average pressure drop outside of the pressure drop range.” RTC at 1.<sup>13</sup> Thus, the Petitioners’ objection that the 24-hour averaging period for this indicator is too long has been addressed by PADEP reducing the averaging time to a third of that length. The EPA recognizes that the Final Permit and RTC were released after the Petition was due, and thus the Petitioners cannot be expected to have taken this change into account. Nonetheless, the Petition does not demonstrate that either the longer or shorter averaging time is inadequate to assure compliance.

The Petitioners also challenge the Proposed Permit on the basis that excursions from the opacity and pressure drop parameters should be treated *ipso facto* as violations of the PM emission limit. Petition at 5. PADEP’s ARM addresses this contention:

Pressure drop will vary depending on boiler load, during soot blowing, with combustion air flow changes related to fuel quality (heating value) and baghouse cleaning cycle efficiency. Such pressure drop variability has no impact on baghouse performance or control efficiency-especially with the Gore-Tex Teflon membrane bags used in the baghouse. . . . Also, consistent with an opacity excursion in the existing CAM Plan, the permittee proposes that if there are 6 or more pressure drop excursions in [a] 6 month period, a quality improvement plan (QIP) would be developed and implemented as soon as practical or within 60 days.

ARM at 3. PADEP has provided an adequate explanation for why an excursion from the secondary baghouse process parameters should not be used without further analysis as inherently a violation of the emissions limit. As PADEP indicates, pressure drop is a useful indicator of a problem with the baghouse (and which, along with other monitoring requirements, is a meaningful part of an overall CAM plan), but pressure drop variability may also be observed for reasons that do not signify that a violation of the emissions limit is occurring, as PADEP stated (e.g., boiler load, soot blowing, fuel quality, or cleaning cycle efficiency, see ARM at 3). The

---

<sup>13</sup> Note, “w.g.” stands for water gauge, which is a measurement of inches of water and is a common measurement of pressure differential.

Petitioners do not address PADEP's explanation as to why excursions from secondary baghouse process parameters do not necessarily reflect an exceedance of the PM emission limit for Source 031.

The EPA further notes that treating an excursion from a monitoring parameter as a violation of an emission limit is not required by the title V or CAM regulations. For example, the EPA's CAM regulations specify certain steps that should be taken in response to excursion events. *See* 40 C.F.R. § 64.7(d) & (e). Whether an excursion signifies a violation of an emission limitation or standard is a matter that need not be addressed in the title V permit itself. The EPA has previously found that Part 70 does not require all indicator ranges in a title V permit to be considered direct evidence of compliance. *See In the Matter of Wisconsin Public Service Corporation's JP Pulliam Power Plant*, Order on Petition No. V-2012-01 at 15 (January 7, 2013). *Cf. Cherokee Station Order* at 12 (finding monitoring regime acceptable where it bears a "reasonable correlation" to the "specified PM emission rate"). Therefore, the EPA finds that the Petitioners' request for objection on the basis that the Proposed Permit must provide that an excursion constitutes a violation of the PM emission limitation is not based on an applicable requirement under the Act.

The Petitioners also challenge the adequacy of the Permit's biannual stack testing requirement. *See* Petition at 2, 4. As an alternative to direct continuous PM emissions monitoring, the Petitioners assert that "quarterly stack testing for the unit's PM emissions limits, combined with a more robust set of secondary performance indicator (sic) for the unit's fabric filter baghouse, must be required." Petition at 6. However, in addition to the above-described requisite biannual stack testing, the Facility also conducts quarterly PM stack testing in compliance with the Mercury and Air Toxics (MATS) rule. PADEP's ARM states: "MACT Subpart UUUUU PM monitoring (Quarterly Testing) is included in the permit and is presumptively equivalent monitoring for PM limits under 25 Pa. Code 123.11(a)(2) and NSPS Subpart Da." ARM at 3. The Petitioners fail to acknowledge or address all of the stack testing requirements that are already included in the Proposed Permit, including quarterly stack testing, required for Source 031 in accordance with the Permit. This failure is grounds for the EPA to deny the Petition for failing to demonstrate a flaw in the monitoring requirements. *See Georgia Power Plants Order* at 10.

PADEP's ARM further states that Source 031 is subject to the low-emitting electrical generating (LEE) unit qualification requirements, which require quarterly stack testing for PM for at least three consecutive years:

Source ID 031 also shall be subject to LEE unit qualification requirements under 40 CFR 63, Subpart UUUUU.

Subpart UUUUU (40 CFR 63.10006) Subsequent performance tests or tune-ups -The facility qualifies as a LEE unit for filterable PM and Hg. PM performance testing is being conducted quarterly for 3 consecutive years and annual 30-day Hg. Method 30B performance testing is conducted in accordance with LEE qualifying criteria under 63.10005(h). Since the facility qualifies as LEE unit for PM, and Hg neither a PM CPMS or Hg CEMS is required. Additionally, the facility is demonstrating compliance with the HCl limit using its Part 75 certified SO2 CEMS and demonstrating compliance with the



SO2 surrogate limit of 0.20 lbs./MMBtu. As such the following 40 CFR 63 Subpart UUUUU performance testing requirements apply:  
40 CFR 63.10006 (b)(1) and (2), (f), (h)

ARM at 9. In accordance with such requirements, the Facility must demonstrate compliance with a filterable PM limit of 0.030 lbs/MMBtu. Proposed Permit, Section D, Source ID 031, Section I, Condition #009.

The results of the quarterly stack tests can provide credible evidence that the 0.012 lbs/MMBtu PM emission limit is or is not being met. Although this quarterly testing is not specifically required in relation to the PM emissions limit at issue in the Petition, it is relevant to, and can be used as an additional indication of, compliance with PM emissions limit for the CFB boiler. *See Gallatin Order* at 16. The Petitioners wholly fail to address the quarterly stack testing requirement in their argument that the PM monitoring requirements for the CFB boiler are deficient.

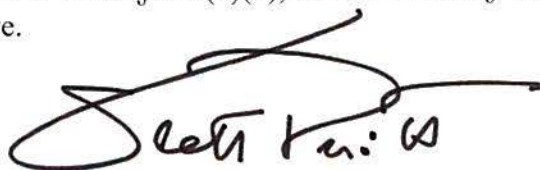
Lastly, the Petitioners argue “installation and operation of a [CEMS] for PM is the proper means of accurately monitoring such emissions.” Petition at 6. However, the Petitioners have failed to identify any applicable requirement for the use of a PM CEMS for monitoring compliance with the PM limit. *See Gallatin Order* at 15; *Cherokee Station Order* at 13. As explained above, PADEP requires Wheelabrator to continuously operate and maintain the control device and comply with a CAM plan, including monitoring of two secondary performance indicators, as well as conduct quarterly and biannual stack testing. Such multi-pronged monitoring regimes have been approved in the past as adequate for CAM purposes, and the Petitioners have not established a basis as to why such an approach is inadequate here.

Based on the EPA’s review of the record, including assessing the adequacy of the PM monitoring requirements for the CFB boiler to assure compliance with the PM emission limit set forth in Permit Condition D, Source 031, #003, the Petitioners have failed to demonstrate that the Permit’s monitoring requirements for PM emissions from the CFB boiler are not adequate to assure compliance with such emission limit.

## V. CONCLUSION

For the reasons set forth above and pursuant to CAA § 505(b)(2), and 40 C.F.R. § 70.8(d), I hereby deny the Petition as described above.

Dated: 1 APR 06 2018



E. Scott Pruitt  
Administrator