BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF	)	
	)	
TENNESSEE VALLEY AUTHORITY, BULL RUN, CLINTON, TENNESSEE PERMIT NO. 01-0009/567519	)	PETITION NUMBER IV-2015-14
	)	
ISSUED BY THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION	)	ORDER RESPONDING TO THE PETITIONERS' REQUEST THAT THE ADMINISTRATOR OBJECT TO ISSUANCE OF STATE OPERATING PERMIT

ORDER GRANTING PETITION FOR OBJECTION TO PERMIT

I. INTRODUCTION

This order responds to issues raised in a petition submitted to the United States Environmental Protection Agency (EPA) by Sierra Club and the Environmental Integrity Project (the Petitioners) pursuant to section 505(b)(2) of the Clean Air Act (CAA or Act), 42 United States Code (U.S.C.) § 7661d(b)(2) and 40 Code of Federal Regulations (C.F.R.) § 70.8(d). The petition seeks the EPA Administrator's objection to an operating permit issued by the Tennessee Department of Environment and Conservation (TDEC) for the Tennessee Valley Authority (TVA) Bull Run facility located in Clinton, Anderson County, Tennessee. Petition IV-2015-3 (the Petition), received on September 29, 2015, addresses the final renewal operating permit issued to TVA Bull Run on August 7, 2015 (the Permit), for its single-boiler supercritical coal-fired power plant, with a nameplate capacity of 950 megawatts..

II. STATUTORY AND REGULATORY FRAMEWORK

A. Title V Permits

Section 502(d)(1) of the CAA, 42 U.S.C. § 766la(d)(1), requires each state to develop and submit to the EPA for approval an operating permit program that meets the requirements of title V of the CAA and the implementing regulations at 40 C.F.R. part 70. The EPA granted interim approval to Tennessee for the title V (part 70) operating permits program on July 29, 1996. 61 Fed. Reg. 39335. The EPA granted full approval to Tennessee for its operating permit program on November 14, 2001. 66 Fed. Reg. 56996. The regulations in Tennessee's federally approved title V program include Tennessee Comprehensive Rules & Regulations (Tenn. Comp. R. & Regs.) 1200-03-09-.02(11) and 1200-03-09-26.

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. CAA §§ 502(a) and 504(a), 42 U.S.C. §§ 7661a(a) and 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). 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 EPA-approved title V programs. Under CAA § 505(a), 42 U.S.C. § 766ld(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 permit if the EPA determines that the permit is not in compliance with applicable requirements of the Act. CAA § 505(b)(1), 42 U.S.C. § 7661d(b)(1); *see also* 40 C.F.R. § 70.8(c) (providing that the EPA will object if the EPA determines that a permit is not in compliance with applicable requirements or requirements under 40 C.F.R. part 70). If the EPA does not object to a permit on its own initiative, section 505(b)(2) of the Act and 40 C.F.R. § 70.8(d) provide that 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.

Such a 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 to the Administrator 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); *see also New York Public Interest Research Group, Inc. (NYPIRG) v. Whitman,* 321 F.3d 316, 333 n.11 (2nd Cir. 2003). Under § 505(b)(2) of the Act, the burden is on the petitioner to make the required demonstration to the EPA. *MacClarence v. EPA,* 596 F.3d 1123, 1130-33 (9th Cir. 2010); *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); *WildEarth Guardians v. EPA*, 728 F.3d 1075, 1081-82 (10th Cir. 2013); *Sierra Club v. EPA,* 557 F.3d 401, 406 (6th Cir. 2009) (discussing the burden of proof in title V petitions); *see also NYPIRG,* 321 F.3d at 333 n.11. In evaluating a petitioner's claims, the EPA considers, as appropriate, the adequacy of the permitting authority's rationale in the permitting record, including the response to comments (RTC) document.

The petitioner's demonstration burden is a critical component of CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2). As courts have recognized, CAA § 505(b)(2), 42 U.S.C. § 7661(b)(2), contains both a "discretionary component," to determine whether a petition demonstrates to the Administrator that a permit is not in compliance with the requirements of the Act, and a nondiscretionary duty to object where such a demonstration is made. *NYPIRG*, 321 F.3d at 333; *Sierra Club v. Johnson*, 541 F.3d at 1265-66 ("[I]t is undeniable [CAA § 505(b)(2)] also contains a discretionary component: it requires the Administrator to make a judgment whether a petition demonstrates a permit does not comply with clean air requirements."). Courts have also made clear that the Administrator is only obligated to grant a petition to object under CAA § 505(b)(2) if the Administrator determines that the petitioners have demonstrated that the permit is not in compliance with requirements of the Act. *See, e.g., Citizens Against Ruining the Environment*, 535 F.3d at 667 (stating § 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); *NYPIRG*, 321 F.3d at 334 ("§ 505(b)[2] of the CAA provides a step-by-step procedure by which objections to draft permits may be raised and directs the EPA to grant or deny them, *depending on* whether non-compliance has been demonstrated.") (emphasis added); *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). When courts review 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., Sierra Club v. Johnson*, 541 F.3d at 1265-66; *Citizens Against Ruining the Environment*, 535 F.3d at 678; *MacClarence*, 596 F.3d at 1130-31. A more detailed discussion of the petitioner demonstration burden can be found in *In the Matter of Consolidated Environmental Management, Inc. – Nucor Steel Louisiana*, Order on Petition Numbers VI-2011-06 and VI-2012-07 (June 19, 2013) (*Nucor II Order*) at 4-7.

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 RTC document), where these documents were available during the timeframe for filing the petition. *See MacClarence*, 596 F.3d at 1132-33; *see also, e.g., In the Matter of Noranda Alumina, LLC*, Order on Petition No. VI-2011-04 (December 14, 2012) (*Noranda Order*) at 20-21 (denying title V petition issue where petitioners did not respond to state's explanation in RTC 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 (June 22, 2012) (*2012 Kentucky Syngas Order*) at 41 (denying title V petition issue where petitioners did not acknowledge or reply to state's RTC or provide a particularized rationale for why the state erred or the permit was deficient). Another criterion the EPA has examined is whether a petitioner has provided the relevant analyses and citations to support its claims. If a petitioner does not, the EPA is left to work out the basis for the petitioner's objection, contrary to Congress' 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."); *In the Matter of Murphy Oil USA, Inc.*, Order on Petition No. VI-2011-02 (September 21, 2011) (*Murphy Oil Order*) at 12 (denying a title V petition claim where

petitioners did not cite any specific applicable requirement that lacked required monitoring). 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 Number VI-2011-05 (January 15, 2013) (*Luminant Sandow Order*) at 9; *In the Matter of BP Exploration (Alaska) Inc., Gathering Center #1*, Order on Petition Number VII-2004-02 (April 20, 2007) (*BP Order*) at 8; *In the Matter of Chevron Products Co., Richmond, Calif. Facility*, Order on Petition No. IX-2004-10 (March 15, 2005) (*Chevron Order*) at 12, 24. Also, if the petitioner did not address a key element of a particular issue, the petition should be denied. *See, e.g., In the Matter of Public Service Company of Colorado, dba Xcel Energy, Pawnee Station,* Order on Petition No. VIII-2010-XX (June 30, 2011) at 7-10; and *In the Matter of Georgia Pacific Consumer Products LP Plant,* Order on Petition No. V-2011-1 (July 23, 2012) at 6-7, 10-11, 13-14.

If the EPA grants an objection in response to a title V petition and the state responds to the objection by revising the terms or conditions of the permit or by supplementing the permit record, that response is treated as a new proposed permit for purposes of CAA section 505(b) and 40 C.F.R. §§ 70.8(c) and (d). *See Nucor II Order* at 14. As explained in the *Nucor II Order*, a new proposed permit in response to an objection will not always need to include new permit terms and conditions. For example, when the EPA has issued a title V objection on the ground that the permit record does not adequately support the permitting decision, it may be acceptable for the permitting authority to respond only by providing additional rationale to support its permitting decision. *Id.* at 14 n.10. The EPA has also explained that treating a state's response to an EPA objection as triggering a new EPA review period and a new petition opportunity is consistent with the statutory and regulatory process for addressing objections by the EPA. *Id.* at 14-15. The EPA's view that the state's response to an EPA objection is a generally treated as a new proposed permit does not alter the procedures for making the changes to the permit terms or condition or permit record that are intended to resolve the EPA's objection, however. When the permitting authority modifies a permit in order to resolve an EPA objection, it must go through the appropriate procedures for that modification. For example, when the permitting authority's response to an objection is a change to the permit terms or conditions or a revision to the permit record, the permitting authority should determine whether its response is a minor modification or a significant modification to the title V permit, as described in 40 C.F.R. § 70.7(e)(2) and (4) or the corresponding regulations in the state's EPA-approved title V program. If the permitting authority determines that the modification is a significant modification, then the permitting authority must provide for notice and opportunity for public comment for the significant modification consistent with 40 C.F.R. § 70.7(h) or the state's corresponding regulations.

III. BACKGROUND

A. The TVA Bull Run Plant

The TVA Bull Run Plant is located at 1265 Edgemoor Road in Clinton, Anderson County, Tennessee. TVA is a federally owned corporation created by a congressional charter in 1933 to provide, among other things, electricity generation. The TVA Bull Run Plant is a single-boiler supercritical coal-fired power plant, with a nameplate capacity of 950 megawatts. The facility's title V permit covers the coal-fired boiler and three auxiliary boilers, ash and coal handling

processes, limestone handling, a hydrated lime injection system, and emergency diesel engine fire pumps. The coal-fired boiler is equipped with an electrostatic precipitator (ESP) and a wet scrubber, and has a continuous opacity monitoring system (COMS) located downstream from the ESP and upstream from the wet scrubber. This boiler is subject to a particulate matter (PM) emission limit of 0.030 pounds (lb) per million British thermal units (MMBtu), and has been operating with PM continuous emissions monitors (CEMS) since May 30, 2013, under Permit Condition E3-4(e). Final Permit at 23. TVA Bull Run is also required to meet this PM limit and use PM CEMS or quarterly stack testing under the Mercury Air Toxics (MATS) rule, which is addressed in Permit Condition E2-6. Final Permit at 21. TDEC issued the facility's initial title V permit (Permit No. 4-07-0001-01) on November 21, 2003, and issued the final renewal permit (Permit No. 01-0009/567519), on which the petition is based, on August 7, 2015.

B. Permitting History

TDEC issued the facility's initial title V permit (Permit No. 4-07-0001-01) on November 21, 2003, and a renewal permit on January 6, 2009, which expired on January 6, 2014. On July 9, 2013, TDEC received a renewal application from TVA for the Bull Run facility. TDEC published public notice of a draft permit on January 13, 2015, and the Petitioners submitted comments on February 12, 2015. Public notice of a revised draft permit was published on April 21, 2015, and the Petitioners submitted comments on May 21, 2015. The EPA's 45-day review period of the proposed permit expired on July 31, 2015, and TDEC issued the final renewal permit (Permit No. 01-0009/567519) on which the Petition is based on August 7, 2015.

C. Timeliness of Petition

Pursuant to the CAA, if the EPA does not object during its 45-day review period, any person may petition the Administrator within 60 days after the expiration of the 45-day review period to object. CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2). Thus, any petition seeking the EPA's objection to the proposed TVA Bull Run permit was due on or before September 29, 2015. The Petitioners filed their Petition on September 29, 2015. The EPA finds that the Petition was timely.

IV. EPA DETERMINATION ON THE ISSUES RAISED BY THE PETITIONERS

Claim 1. "The Evaluation Requirements in the Bull Run Title V Permit for Opacity Are Impermissibly Lax and TDEC's Comment Response Fails to Validate the Bull Run Permit's Impermissibly Lax Opacity Evaluation Requirements."

The Petition contains one claim, which is found on pages 5-8 of the Petition.

Petitioners' Claim. The Petitioners claim generally that the TVA Bull Run Title V permit lacks sufficient monitoring to assure compliance with Permit Condition E.3-8, which the Petitioners assert requires that "opacity must never exceed 20%, except for periods of no more than six minutes occurring no more frequently than once per hour, and even then not to exceed 40% opacity." Petition at 5. The Petitioners claim that:

> [E]ach Title V permit must contain sufficient monitoring, recordkeeping, reporting, and inspection and entry requirements to assure compliance with emission limits. *See* 40 C.F.R. § 70.6(a)(1), § 70.6(a)(3), and § 70.6(c)(2). Monitoring requirements must "assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement." 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").

Id. at 6.

The Petitioners further claim that:

> The periodic monitoring rule provides that where an applicable requirement does not, itself, "require periodic testing or instrumental or noninstrumental [sic] 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)(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).

Id. The Petitioners state:

> 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. This "umbrella" monitoring rule, 40 C.F.R. § 70.6(a)(3)(C), backstops the periodic requirement by making 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. 2011)). The Petitioners assert that TDEC's requirement of visual inspections twice a year to evaluate an opacity limit measured over a six-minute period is not monitoring that is sufficient to yield reliable data that are representative of the source's compliance with the permit. *Id.*

The Petitioners also assert that TDEC erred in its rationale concerning the adequacy of the Permit's opacity monitoring requirements. The Petitioners state that TDEC erroneously relied on the biannual visual emission observations monitoring of the "opacity applicable requirement." *Id.* at 7. The Petitioners also reject TDEC's rationale that a COMS is not an appropriate measure of opacity at TVA Bull Run because the COMS is installed "between the [electrostatic precipitator, a device for controlling particulate matter] and the wet scrubber," and thus would not yield accurate data about the compliance of the Bull Run facility with the opacity standard. *Id.* at 8 (citing to TDEC's Title V Permit Statement for the 2015 TVA Bull Run Title V Permit,

No. 01-0009/567519 (Aug. 7, 2015) at 6). The Petitioners state that "the apparent failure of TVA to install COMS at a point at which it would provide useful information about permit compliance simply does not excuse TDEC from its obligation to assure compliance with the permit terms and conditions." *Id.*

EPA's Response to Claim. For the reasons described below, the EPA grants the Petition because the Petitioners have demonstrated that the Permit and Permit record are inadequate to assure compliance with the state implementation plan (SIP) opacity limit of Tenn. Comp. R. & Regs. 1200-03-05-.01.

Relevant Legal Background

In support of the EPA's response to Claim 1, below is a brief overview of the relevant legal background related to this claim. Claim 1 involves the opacity limitation of the Tennessee SIP at Tenn. Comp. R. & Regs. 1200-03-05-.01, which provides:

> [F]or fuel burning installations with fuel burning equipment of input capacity greater than 600 x 106 Btu per hour, no person shall cause, suffer, allow, or permit discharge of a visible emission from any fuel burning installation with an opacity in excess of twenty (20) percent (6-minute average) except for one six-minute period per one (1) hour of not more than forty (40) percent opacity.

Tenn. Comp. R. & Regs. 1200-03-05-.03 provides that a determination of:

> [V]isible emissions shall be made by a certified evaluator and compliance with the standards contained in rules of this chapter shall be evaluated in terms of opacity. (2) Evaluators shall be certified by the criteria approved by the Board. (3) Visible emission readings by certified evaluators shall be performed by methods approved by the Board.

This SIP rule is a title V applicable requirement for which the relevant emission limitations and standards must be included in the title V permit. *See* 40 C.F.R. §§ 70.6(a)(1), 70.2 (Applicable Requirement); Tenn. Comp. R. & Regs. 1200-03-09-.02(11)(e)(1)(i), 1200-03-09-.02(11)(b)(5)(i).

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." § 504(c), 42 U.S.C. § 7661c(c). As the EPA has previously explained:

> To summarize, EPA's part 70 monitoring rules (40 C.F.R. §§ 70.6(a)(3)(i)(A) and (B) and 70 .6(c)(1)) are designed to satisfy the statutory requirement 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). 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).

In the Matter of CITGO Refining and Chemicals Co., L.P., West Plant, Corpus Christi, Tx., Order on Petition No. VI-2007-01 (May 28, 2009) (*CITGO Order*) at 6-7; *see also In the Matter of Public Service of New Hampshire*, Order on Petition No. VI-2014-04 (July 28, 2015) at 14; *In the Matter of EME Homer City Generation LP Indiana County, Penn.*, Order on Petition Nos. III-2012-06, III-2012-07, III-2013-02 (July 30, 2014) (*Homer City Order*) at 45.

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. *Homer City Order* at 45; *CITGO Order* at 6-8.

The Petitioners' claim concerns whether the monitoring appropriate to assure compliance with an opacity limit. Thus, the following information is also relevant in considering the Petitioners' claim. The EPA has previously found that Method 9 visual observations with frequency similar to the biannual observations at issue for such opacity limits were not adequately supported. *See In the Matter of Public Service Co. of Colorado, dba Xcel Energy, Pawnee Station*, Order on Petition No. VIII-2010-XX at 20-21 (June 30, 2011) (finding insufficient explanation of the adequacy of annual Method 9 tests for monitoring opacity at certain operations); *In the Matter of EME Homer City Generation LP Indiana County, Penn.*, Order on Petition Nos. III-2012-06, III-2012-07, III-2013-02 at 45 (finding insufficient explanation of the adequacy of weekly Method 9

observations). In addition, the EPA has found that quarterly Method 9 observations are inadequate to assure compliance with a SIP opacity limit within the meaning of 40 C.F.R. § 70.6(c)(1). *See In the Matter of Pacificorp's Jim Bridger and Naughton Electric Utility Steam Generating Plants*, Order on Petition No. VIII-00-1 (November 16, 2000) at 19.

The EPA has also previously stated that COMs are not appropriate for measuring opacity in facilities where the COMS are located downstream from a wet scrubber:

> Opacity cannot be measured accurately in the presence of condensed water vapor. Thus, COMS opacity compliance determinations cannot be made when condensed water vapor is present, such as downstream of a wet scrubber without a reheater or at other saturated flue gas locations. Therefore, COMS must be located where condensed water vapor is not present.

Quality Assurance Requirements for Continuous Opacity Monitoring Systems at Stationary Sources, 79 Fed. Reg. 28439, 28442 (May 16, 2014).

The EPA has also recognized a relationship between opacity and PM limits and monitoring. In 2009, for example, the EPA amended New Source Performance Standards (NSPS) for electric utility steam generating units and industrial-commercial-institutional steam generating units, in part, to eliminate the opacity standard and opacity monitoring requirements for facilities with a PM limit of 0.030 lb/MMBtu or less that voluntarily installed and used PM CEMS to demonstrate continuous compliance with that limit. *See* 74 Fed. Reg. 5072, 5073 (January 28, 2009) (amending, in part, 40 C.F.R. part 60, subparts D through Dc). The EPA explained:

> The contribution of filterable PM to opacity at these emission levels is generally negligible, and sources with mass limits at this level or less will operate with little or no visible emissions (i.e., less than 5 percent opacity). As a result, EPA believes that an opacity standard is no longer necessary for these sources since the PM mass emission rate standard is substantially tighter than the opacity standard and the mass of PM emissions will be continually monitored.

Id.

The EPA also noted that, in such circumstances, visible emissions can be used as a secondary check:

> In situations where the owner/operator of a facility has documented visible emissions during the initial or subsequent PM CEMS calibration testing or documented trends in PM CEMS readings that correlate to the visible emissions, the relative amount of visible emissions can still be used by the local permitting authority as a secondary check that both the PM control device and PM CEMS are operating properly. . . . Owners or operators of affected facilities with some visible emissions but where the maximum 6-minute opacity reading is 5% or less [this is the maximum opacity level that should be observed at a 0.030 lb/MMBtu

> limit per the text mentioned earlier] will be required to conduct semi-annual Method 9 performance testing.

Id.

Relevant Permit Terms and Conditions

This section identifies the relevant permit terms and conditions related to the Petitioners' claim.

Permit Condition E3-8 provides that:

> Visible emissions from this fuel burning installation shall not exceed twenty (20) percent opacity except for one six (6) minute period per one (1) hour of not more than forty percent (40%) opacity as specified in Paragraph 1200-03-05-.01(1) of the Tennessee Air Pollution Control Regulations. Opacity data reduction shall be accomplished by EPA Method 9 utilizing the procedures outlined in the current 40 C.F.R. part 60, Appendix A (six-minute average opacity).

Final Permit at 24. Permit Condition E3-8 includes the following compliance method for this opacity limitation:

> Consistent with the provisions of Paragraph 1200-03-05-.03(1) of the Regulations, compliance with the applicable visible emissions standards shall be determined by a certified reader using Method 9. The stack shall be evaluated biannually unless a valid reading cannot be made due to merging plumes or other reasons. In the event that a valid reading cannot be taken within 6 months and provided that at least one reading was attempted during the six month period, an additional 30 days shall be allowed in which to attempt another reading. If a valid reading cannot again be made, the permittee shall within 60 days of the end of the six-month period submit a report describing its efforts to obtain valid readings, and the reasons it could not.

Id.[1] Permit Conditions E2-6 and E3-4 require that PM emissions shall not exceed 0.030 lb/MMBtu. *Id.* at 21, 23.

TDEC's Response

In response to public comments filed by the Petitioners on the opacity monitoring included in the draft permit, TDEC stated that it considered the permit's existing compliance method to be adequate "[b]ecause the applicable requirement [TAPCR 1200-03-05] explicitly . . . requires periodic visible emissions evaluations, the requirement to conduct visible emissions evaluations biannually and to report these evaluations in the semiannual reports meets the requirements of

[1] Method 9 is a test method for a visual determination of the opacity of emission from a stationary source. 40 C.F.R. part 60, Appendix A (Method 9). This method involves the determination of plume opacity by qualified observers. *Id.* The method includes procedures for the training and certification of observers, and procedures to be used in the field for determination of plume opacity. *Id.*

§70.6(a)(3)." RTC at 6 (footnote omitted), 14. TDEC also stated that if "a periodic monitoring requirement is not sufficient to satisfy the Title V monitoring requirements, EPA has adopted the specific requirements of 40 CFR 64 (CAM) to address any monitoring deficiencies," and "the applicability of MATS requirements (40 CFR 63 Subpart UUUU) renders the CAM requirements obsolete." *Id.* Finally, TDEC responded that Method 9 visual emissions evaluations would be a more accurate method to assess compliance with the opacity limit than the COMS because the COMS is located between the ESP and the wet scrubber and additional PM removal is occurring prior to the stack. *Id.*

EPA's Analysis

The EPA finds that TDEC's Permit and Permit record are inadequate to assure compliance with the opacity limit of Tenn. Comp. R. & Regs.1200-03-05-.01. TDEC does not clearly or adequately explain, in a manner consistent with the monitoring requirements of 40 C.F.R. § 70.6(a) and (c)(1), as well as the requirements of 40 C.F.R. §70.7(a)(5) that to set forth the basis for the permit conditions, its rationale for the opacity monitoring. Ostensibly addressing only the requirements of 40 C.F.R. § 70.6(a)(3)(i), not § 70.6(c)(1), the permit record reflects simply the statement that biannual Method 9 visual monitoring "meets the requirements of § 70.6(a)(3)" because "the applicable requirement explicitly . . . requires periodic visible emissions evaluations." RTC at 6. As explained above, title V permits must contain monitoring sufficient to assure compliance with each applicable requirement, consistent with the requirements of 40 C.F.R. §§ 70.6(a)(3)(i) and 70.6(c)(1). If there are periodic monitoring provisions 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, as required by 40 C.F.R. § 70.6(c)(1).[2] Consistent with prior orders, the EPA finds that biannual Method 9 visual evaluations are inadequate to assure compliance with the opacity limit in the TVA Bull Run permit. *See In the Matter of Pacificorp's Jim Bridger and Naughton Electric Utility Steam Generating Plants*, Order on Petition No. VIII-00-1 at 19 (finding that quarterly Method 9 observations are inadequate to assure compliance with a SIP opacity limits within the meaning of 40 C.F.R. § 70.6(c)(1)); *see also In the Matter of Public Service Co. of Colorado, dba Xcel Energy, Pawnee Station*, Order on Petition No. VIII-2010-XX at 20-21 (finding authority did not adequately explain how annual Method 9 testing assured compliance with the opacity limits in the permit); *Homer City Order* at 45 (finding that the permitting authority did not adequately explain how a weekly Method 9 observation assured compliance with the opacity limits in the permit). Beyond TDEC's statement that "the applicable requirement explicitly . . . requires periodic visible emission evaluations," and that "the requirement to conduct visible emissions evaluations biannually meets the requirements of §70.6(a)(3)," TDEC did not provide any rationale for why biannual Method 9 visual evaluations are sufficient to assure compliance. Specifically, TDEC did not explain how twice-yearly

[2] The EPA observes that it is not apparent whether the applicable requirement requires periodic monitoring. Although TAPCR 1200-03-05-.03 refers to a "determination of visible emissions" made by a "certified evaluator," the regulation does not specify any particular period or frequency of such determinations. In any event, even if the applicable requirement did contain periodic monitoring, the question of the adequacy of the monitoring would not end simply by incorporating such monitoring into the permit. Rather, as noted above, 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).

Method 9 observations assure compliance with an opacity limit of 20 percent averaged over a six-minute period except for one 6 minute period per 1 hour of not more than 40 percent. *See* Final at Permit 24 (E3-8). Therefore, the biannual Method 9 visual monitoring for the opacity standard in the Permit does not meet the requirements of § 504(c) of the CAA (42 U.S.C. § 7661c(c)); the EPA's regulations at 40 C.F.R. § 70.6(a)(3) and 70.6(c)(1); or Tenn. Comp. R. & Regs. 1200-03-09-.02(11)(e)(1)(iii) and 1200-03-09-.02(11)(e)(3)(i).

To the extent that the Petitioners are asserting that the COMS were improperly installed at TVA Bull Run, the EPA observes that the COMS at TVA Bull Run are properly located upstream from the wet scrubber, where condensed water vapor is not present. *See* 79 Fed. Reg. at 28442 ("COMS opacity compliance determinations cannot be made when condensed water vapor is present, such as downstream of a wet scrubber without a reheater or at other saturated flue gas locations. Therefore, COMS must be located where condensed water vapor is not present."). Further, TDEC explained in the RTC that COMS would not provide an accurate indication of opacity since additional PM removal is occurring from the wet scrubber that is not reflected by the COMS. RTC at 6. As explained further in the EPA's direction to TDEC below, the EPA notes that there may be other monitoring requirements in the TVA Bull Run Permit that could be used to demonstrate compliance with the opacity limit.

For the foregoing reasons, the EPA has determined that the Permit and Permit record are inadequate to assure compliance with the SIP opacity limit and therefore grants the Petition.

EPA's Direction to TDEC

In responding to this objection, the EPA directs the TDEC to revise TVA Bull Run's Permit and the Permit record to assure compliance with the SIP opacity limit of Tenn. Comp. R. & Regs.1200-03-05-.01, consistent with the requirements of 40 C.F.R. §§ 70.6(a)(3) and 70.6(c)(1); and Tenn. Comp. R. & Regs. 1200-03-09-.02(11)(e)(iii).

The EPA observes that the permit already contains monitoring and other control requirements that appear sufficient to show compliance with the SIP opacity limit, but the Permit would need to be revised to expressly link such compliance assurance measures with the SIP opacity limit in Permit Condition E3-8.[3] Final Permit at 24. Specifically, Permit Condition E3-4(e) already requires the installation and operation of PM CEMS, which, as discussed above, could be used to assure compliance with the SIP opacity limit of Tenn. Comp. R. & Regs.1200-03-05-.01. *Id.* at 21. In particular, as explained above, the use of PM CEMS would ensure continuous compliance with the SIP opacity limit. 74 Fed. Reg. at 5073 ("As a result, EPA believes that an opacity standard is no longer necessary for these sources since the PM mass emission rate standard is substantially tighter than the opacity standard and the mass of PM emissions will be continually monitored."). Accordingly, the Permit could be revised to state that compliance with the SIP opacity limit of Permit Condition E3-8 is demonstrated if PM emissions do not exceed a 0.030 lb/MMBtu heat input limit using PM CEMS. As explained above, the permit could also continue

[3] The EPA observes that, in consideration of the entirety of the various monitoring requirements found in the Permit, a CAM plan is not required to assure compliance with the SIP opacity limit.

to require biannual Method 9 visual observations as a secondary check that both the PM control device and PM CEMS are operating properly.

Finally, TDEC may consider other methods for demonstrating compliance with the Permit's opacity limit of Tenn. Comp. R. & Regs. 1200-03-05-.01, consistent with the CAA and TDEC's approved title V program.

V. CONCLUSION

For the reasons set forth above and pursuant to CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2), Tenn. Comp. R. & Regs. 1200-03-09-.02(11), and 40 C.F.R. § 70.8(d), I hereby grant the Petition as to the claim described herein.

Dated: NOV 10, 2016

Gina McCarthy,
Administrator