

BEFORE THE ADMINISTRATOR  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

_____ )	
IN THE MATTER OF )	
EAST KENTUCKY POWER )	
COOPERATIVE, INC. )	
HUGH L. SPURLOCK GENERATING )	ORDER RESPONDING TO
STATION )	PETITIONER'S REQUEST
MAYSVILLE, KENTUCKY )	THAT THE
PETITION IV-2006-4 )	ADMINISTRATOR
PERMIT NO. V-06-007 )	OBJECT TO
ISSUED BY THE KENTUCKY )	ISSUANCE OF
ENVIRONMENTAL PROTECTION CABINET )	STATE PERMIT
DEPARTMENT FOR ENVIRONMENTAL )	
PROTECTION, DIVISION FOR AIR QUALITY )	
_____ )	

**ORDER GRANTING IN PART AND DENYING IN PART**  
**PETITION FOR OBJECTION TO PERMIT**

On August 17, 2006, the United States Environmental Protection Agency (EPA) received a petition from the Sierra Club (Petitioner) pursuant to section 505(b)(2) of the Clean Air Act (CAA or the Act), 42 U.S.C. § 7661d(b)(2). Sierra Club's petition requests that the Administrator object to the permit issued by the Kentucky Division for Air Quality (KYDAQ or Kentucky) to East Kentucky Power Cooperative, Inc. (EKPC), for the operation of the Hugh L. Spurlock Generating Station (Spurlock Station) located in Maysville, Kentucky. The permit (No. V-06-007) is a state-issued operating permit for Units 1 through 4 at the Spurlock Station, with a combined Prevention of Significant Deterioration (PSD) construction air quality permit for Unit 4, and was issued by KDAQ pursuant to Kentucky Administrative Regulations (KAR) at 401 KAR 52:020 and 40 KAR. 51.017.

Sierra Club's petition raises several issues in requesting that EPA object to this permit. Petitioner alleges that: (1) the permit does not specify whether continuous opacity monitoring (COMS) data will be available to prove a violation of the opacity standard for Unit 1; (2) the permit must include a heat input limit under the heading *Operating Limits* for Unit 2; (3) the permit must contain a compliance schedule for bringing Unit 2 into compliance with PSD requirements; (4) the permit improperly omits an applicable requirement to construct and operate Unit 3 consistent with and according to the specifications provided in its permit application; (5) the permit contains erroneous best available control technology (BACT) limits at Unit 3 for several pollutants; (6) the permit contains

unenforceable limits related to particulate matter and hazardous air pollutant emissions from Unit 3; and (7) the permit contains erroneous BACT limits for Unit 4.

EPA has reviewed these allegations pursuant to the standard set forth in section 505(b)(2) of the Act, which requires the Administrator to issue an objection if the Petitioner demonstrates to the Administrator that the permit is not in compliance with the applicable requirements of the Act. *See also* 40 C.F.R. § 70.8(d); *Sierra Club v. Johnson*, 436 F.3d 1269, 1280 (11<sup>th</sup> Cir. 2006); and *New York Public Interest Group v. Whitman*, 321 F.3d 316, 333 n.11 (2<sup>nd</sup> Cir. 2002).

Based on a review of the information before me, including the petition; the facility's permit application dated January 20, 2006; the final effective permit issued on July 31, 2006; the administrative record supporting the permit; KYDAQ's Response to Comments dated June 1, 2006; and relevant statutory and regulatory authorities, I partially deny and partially grant Petitioner's request for the reasons set forth in this Order.

## I. STATUTORY AND REGULATORY FRAMEWORK

Section 502(d)(1) of the Act, 42 U.S.C. § 7661a(d)(1), calls upon each state to develop and submit to EPA an operating permit program intended to meet the requirements of CAA title V. The Commonwealth of Kentucky originally submitted its title V program governing the issuance of operating permits in 1993. EPA granted interim approval to the program on November 14, 1995. *See* 60 Fed. Reg. 57186. Full approval was granted by EPA on October 31, 2001. *See* 66 Fed. Reg. 54953. The program is now incorporated into Kentucky's Administrative Regulations at 401 KAR 52:020. 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 Act, including the applicable implementation plan. *See* CAA § 502(a) and 504(a), 42 U.S.C. § 7661a(a) and 7661c(a).

The title V operating permit program does not generally impose new substantive air quality control requirements (which are referred to as "applicable requirements") but does require permits to contain monitoring, recordkeeping, reporting, and other conditions to assure compliance by sources with all applicable requirements. 40 C.F.R. § 70.1(b); *see also* 57 Fed. Reg. 32250, 32251 (July 21, 1992). One purpose of the title V program is to "enable the source, States, EPA, and the public to better understand 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 existing air quality control requirements are appropriately applied to facility emission units in a single document and that compliance with these requirements is assured.

## A. Title V Review

Under section 505(a) of the Act and the relevant implementing regulations, *see* 42 U.S.C. § 7661d(a); 40 C.F.R. § 70.8(a), states are required to submit each proposed title V permit to EPA for review. Upon receipt of a proposed permit, EPA has 45 days to object to final issuance of the permit if it is determined not to be in compliance with applicable requirements or the requirements of title V. 40 C.F.R. § 70.8(c). If EPA does not object to a permit on its own initiative, section 505(b)(2) of the CAA provides that any person may petition the Administrator, within 60 days of the expiration of EPA's 45-day review period, to object to the permit. 42 U.S.C. § 7661d(b)(2); *see also* 40 C.F.R. § 70.8(d). In response to such a petition, the Act requires the Administrator to issue a permit objection if a petitioner demonstrates that a permit is not in compliance with the requirements of the Act, including the requirements of 40 C.F.R. part 70 and the applicable state implementation plan (SIP). 42 U.S.C. § 7661d(b)(2); *see also*, 40 C.F.R. § 70.8(c)(1); *New York Public Interest Research Group (NYPIRG) v. Whitman*, 321 F.3<sup>rd</sup> 316, 333 n.11 (2<sup>nd</sup> Cir. 2003).

Petitions must be based on objections to the permit raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such objections within that period or the grounds for such objections arose after that period. CAA § 7661d(b)(2); 40 C.F.R. § 70.8(c)(1). If the permitting authority has not yet issued the permit, it may not do so unless it revises the permit and issues it in accordance with section 505(c) of the Act, 42 U.S.C. § 7661d(c). However, a petition for review does not stay the effectiveness of the permit or its requirements if, as is the case here, the permitting authority issued the permit after the expiration of EPA's 45-day review period and before receipt of the petition for review. If, in responding to a petition, EPA objects to a permit that has already been issued, EPA or the permitting authority will modify, terminate, or revoke and reissue the permit consistent with the procedures set forth in 40 C.F.R. §§ 70.7(g)(4) and (5)(i) - (ii), and 40 C.F.R. § 70.8(d).

## B. Applicable PSD Requirement

For new major stationary sources,<sup>1</sup> applicable requirements include the requirement to obtain a preconstruction permit that complies with applicable new source review and PSD requirements. Part C of the CAA establishes the PSD program, the preconstruction review program that applies to areas of the country that have attained the National Ambient Air Quality Standards (NAAQS). CAA §§ 160–169, 42 U.S.C. §§ 7470-7479. In such areas, a major stationary source may not begin construction or undertake certain modifications without first obtaining a

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<sup>1</sup> “Major stationary source” is defined, *inter alia*, as a fossil fuel-fired steam electric plant of more than 250 British thermal units (Btu) per hour heat input with the potential to emit 100 tons per year or more of certain criteria pollutants, such as nitrogen oxide (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), or particulate matter (PM). 40 C.F.R. § 51.166(b)(1)(i)(a); and 401 KAR 51.001.

PSD permit. CAA § 165(a)(1), 42 U.S.C. § 7475(a)(1). In broad overview, the PSD program includes two central requirements that must be satisfied before the permitting authority may issue a permit; the program (1) limits the impact of new or modified major stationary sources on ambient air quality and (2) requires the application of state-of-the-art pollution control technology, known as BACT. CAA §§ 165(a)(3) & (4), 42 U.S.C. §§ 7475(a)(3) and (4). The CAA further defines BACT as “an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, *which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of such pollutant.*” CAA § 169(3) (emphasis added); *see also* 401 KAR 51.001.

EPA has promulgated two largely identical sets of regulations to implement the PSD program. One set, at 40 CFR § 52.21, contains EPA’s own federal PSD program, which was incorporated into the implementation plans of all states at the inception of the PSD program in the 1970s. EPA is the permitting authority in states operating under 40 CFR § 52.21 and permits issued under such programs are federal permits that may be appealed to EPA’s Environmental Appeals Board, and ultimately, the federal courts of appeals. The other set of regulations contain requirements that state PSD programs must meet to be approved as part of a SIP. 40 CFR § 51.166. Over time, most states have received EPA approval for their PSD programs. In 1989, EPA approved Kentucky’s PSD revision to its SIP as meeting these requirements in relevant part. 54 Fed. Reg. 36307 (September 1, 1989); *see also* 40 CFR § 52.931. For new major stationary sources in Kentucky and for major modifications of existing sources, the Commonwealth’s regulations require sources to apply for a PSD permit at the same time that it applies for its title V operating permit. 401 KAR 52:020.

Where, as in this case, Petitioner’s request that the Administrator object to the issuance of a title V permit is based in whole, or in part, on KYDAQ’s alleged failure to comply with the requirements of the Commonwealth’s approved PSD program in issuing a combined title V/PSD permit, the burden is on Petitioner to demonstrate that KYDAQ clearly erred by issuing the PSD permit with terms that are not in compliance with applicable PSD requirements.

As noted above, EPA has approved the PSD programs of most states, including the Commonwealth of Kentucky. As the permitting authority, such states have substantial discretion in issuing PSD permits. Given this, in reviewing a state’s PSD permitting decision, EPA will not substitute its own judgment for that of the state. Rather, consistent with the decision in *Alaska Dep’t of Env’tl Conservation v. EPA*, 540 U.S. 461 (2004), EPA’s oversight role in the review of PSD permits in the context of a title V petition is limited to ensuring that the state

has adequately explained the basis for its determination and that the PSD permit comports with the requirements of the state's approved PSD program.

In determining the appropriate standard to apply to the PSD determinations in this case, the standard of review applied by the Environmental Appeals Board (EAB) in reviewing the appeals of federal PSD permits issued pursuant to the federal regulations at 40 CFR § 52.21, provides a useful analogy. Unlike title V objections, the appeal of federal PSD permits is governed by the regulations at 40 CFR § 124.19, and authority to review such permits rests exclusively with the EAB.<sup>2</sup> The standard of review applied by the EAB in its review of federal PSD permits has been explained in numerous orders of the EAB. *See e.g., Prairie State Generation Company*, PSD Appeal No. 05-05, slip op. (EAB, Aug. 24, 2006); *Kawaihae Cogeneration*, 7 E.A.D. 107, 114 (EAB 1997). In short, in such appeals, the burden is on a petitioner to demonstrate that review is warranted. Ordinarily, a PSD permit will not be reviewed by the EAB unless the decision of the permitting authority was based on either a clearly erroneous finding of fact or conclusion of law, or involves an important matter of policy or exercise of discretion that warrants review.

Thus, when a response to a petition to object to a title V permit requires the Administrator to determine whether an approved state's PSD permitting decision was adequately explained and meets the requirements of its SIP, EPA believes it is appropriate to apply a similar standard of review to that employed by the EAB in its review of federal PSD permits. When EPA promulgated the regulations governing the EAB's exercise of its review authority, the Agency noted that the power of review "should be only sparingly exercised." 45 Fed. Reg. 33290, 33412. Similar deference to the permitting authority is also justified in the case of a PSD permit issued by a state with an approved PSD program, as is the case here.

## II. BACKGROUND

### A. The Facility

The facility at issue - Spurlock Station - is an electric generating plant owned and operated by EKPC in Maysville, Mason County, Kentucky. The plant burns fossil fuels, primarily coal, to generate electricity. The plant includes two pulverized coal boilers and one circulating fluidized bed (CFB) boiler, with plans to construct an additional CFB boiler.

Emission Unit 1 is a 3500 mmBtu/hr dry-bottom wall fired boiler equipped with electrostatic precipitators (ESPs) and a low-NO<sub>x</sub> burner, for which

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<sup>2</sup>Because of the exclusive authority of the EAB in this area, the Administrator has declined to review the merits of a federal PSD permit in the context of a petition to review a title V permit. *See e.g., In re Kawaihae Cogeneration Project*, Petition No. 0001-01-C (March 10, 1997).

construction began before 1971. The precipitators were installed as part of the original plant construction but were rebuilt in 1990-1992. In addition, a selective catalytic reduction device was installed in 2003.

Emission Unit 2 is a 4850 mmBtu/hr tangentially fired boiler equipped with ESPs, low NO<sub>x</sub> burners, and a flue gas desulfurization (FGD) system and was subject to review under 40 C.F.R. part 52.21, in November 1979. The FGD system has not been in operation since 1985. A selective catalytic reduction device was installed in 2003, after the date of the original title V permit issuance.

Emission Unit 3 was constructed in 2002. It is a 2,500 mmBtu/hr CFB boiler equipped with a baghouse filter, flash dry absorber and a selective non-catalytic reduction (SCNR) unit. This unit burns coal and tire derived fuel (TDF) with the condition that TDF will not be burned in excess of 10 percent of coal fuel by weight ratio.

Emission Unit 4 will be constructed at EKPC's existing Spurlock Station pursuant to issuance of the title V and combined PSD permit. Unit 4 is a new 300 megawatt coal-fired electric utility boiler, utilizing CFB technology. The new CFB boiler will be equipped with selective non-catalytic reduction, pulse jet fabric filters, dry scrubbing, and limestone injection pollution control systems. Unit 4 is virtually identical to the existing Unit 3, which also has a CFB boiler.

## **B. The Permit**

The Spurlock Station title V permit at issue is a renewal permit. EKPC submitted an application for its initial operating permit in January 1976 to construct Unit 2. The initial operating permit issued by Kentucky was effective on November 10, 1982. The 1983 permit was subsequently amended on October 7, 1983. In 1996, EKPC submitted title V permit applications for its Dale and Spurlock units. On December 10, 1999, Kentucky issued a final title V permit for Spurlock Unit 2. On April 24, 2001, EKPC submitted a construction permit application for Spurlock Unit 3. The application was considered to be complete on February 8, 2002. The permit for Unit 3 became effective on June 21, 2002.

On June 8, 2004, KYDAQ received an application for renewal of the title V permit. This title V permit is combined with the proposed construction of Unit 4. EKPC submitted an air permit application dated September 13, 2004, seeking a permit to construct a new 300 megawatt net nominal generating unit. Kentucky's permit program provides for PSD permitting to occur concurrently with the title V permitting process. From December 2004 through January 2006, EKPC provided KYDAQ with additional information to support the combined title V and PSD permitting process. The application was administratively completed on January 20, 2006. Thereafter, KYDAQ proposed a draft title V permit and provided a public comment period, during which KYDAQ received timely comments, including those submitted by the Petitioner. EPA did not object to the proposed permit within its

45-day review period, which ended July 27, 2006. KYDAQ issued the final permit on July 31, 2006, which included the renewals of the existing title V permit for Units 1 through 3 and the initial combined title V and PSD permit for Unit 4.

### C. Litigation History

On January 24, 2003, EPA issued an Notice of Violation (NOV) to EKPC for PSD violations at the Spurlock Station concerning Unit 2. Subsequently on January 29, 2004, EPA filed an enforcement action in federal district court against EKPC alleging similar PSD violations at Unit 2. *U.S. v. East Kentucky Power Cooperative, Inc.*, Case No. 04-34-KSF (E.D. KY).<sup>3</sup> While the parties have entered into a proposed consent decree to resolve the enforcement proceeding, it has not yet been finalized by the court.

In addition, Petitioner brought a state administrative challenge of this title V permit pursuant to the Kentucky Revised Statute (KRS) 224.10-440. A formal administrative hearing on that challenge was held on December 4, 2006. At the conclusion of the oral arguments, the case was submitted to the Secretary of the Kentucky Environmental and Public Protection Cabinet (Secretary) for issuance of the final Order. The Hearing Officer's Report and Recommended Secretary's Order was filed on April 16, 2007. The Secretary has until September 12, 2007, to file a final Order in the administrative proceeding.<sup>4</sup>

Finally, on September 28, 2006, Petitioner filed a deadline suit to compel the Administrator to respond to the title V petition at issue in this Order. *Sierra Club v.*

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<sup>3</sup> The United States alleged, *inter alia*, that EKPC performed "major modifications" at the Spurlock and Dale Plants, within the meaning of the regulations implementing the PSD program, in connection with a series of capital projects and operational changes at the Spurlock Plant to supply steam to the Inland Container Corporation, and a series of capital projects at the Dale Plant involving the replacement of boiler and turbine components. At Spurlock Unit 2 and Dale Units 3 and 4, the United States alleged that these projects resulted in unpermitted "significant net emission increases" of NO<sub>x</sub>, SO<sub>2</sub> and/or PM under the PSD program. The United States asked that the Court order EKPC, *inter alia*, to remedy the alleged violations by requiring installation of the best available control technology on Spurlock Unit 2 and Dale Units 3 and 4, in order to control and reduce emissions of NO<sub>x</sub>, SO<sub>2</sub> and/or PM. The United States also alleged that the projects undertaken at Dale Units 3 and 4 violated the applicable New Source Performance Standards for these pollutants, and that EKPC failed to include PSD and NSPS requirements triggered by its projects in its operating permits required by title V of the CAA. On July 2, 2007, the United States and EKPC lodged a proposed Consent Decree in the U.S. District Court for the Eastern District of Kentucky. Judicial approval of the settlement is pending court review.

<sup>4</sup> The issues presented at the hearing include the following allegations: (a) that the Cabinet failed to make certain information available to the public during the public comment period; and (b) that the Cabinet erred in determining the BACT selection for NO<sub>x</sub> for Unit 4.

*Johnson*, No 1:07CV00414 (RWR) (D.D.C). On July 18, 2007, notice of the proposed consent decree to address this deadline lawsuit was published. 72 Fed. Reg. 9413. Pursuant to the terms of the proposed consent decree, EPA has until August 31, 2007, to respond to the petition.

### **III. THRESHOLD REQUIREMENTS**

#### **A. Timeliness of Petition**

Section 505(b)(2) of the Act provides that a person may petition the Administrator of EPA, within sixty days after the expiration of EPA's 45-day review period, to object to the issuance of a proposed permit. As noted above, EPA's 45-day review period for the Spurlock Station title V permit expired on July 27, 2006. Thus, the sixty-day petition period ended on September 27, 2006. EPA received the subject petition on August 17, 2006. Accordingly, EPA finds that Petitioner timely filed its petition.

#### **B. Objections Raised with Reasonable Specificity During Public Comment Period**

The Petitioner filed this petition pursuant to CAA § 505(b)(2), under which the Administrator will object to a permit if "the petitioner demonstrates to the Administrator that the permit is not in compliance with the requirements of this Act, including the requirements of the applicable implementation plan." EPA considers whether the Petitioner has provided sufficient information to make the requisite "demonstrat[ion]" under the facts, circumstances, and legal issues of the particular case, viewed in light of the provisions, structure of title V and the relationship of those provisions with the enforcement provisions of title I. *See In the Matter of Georgia Power Bowen Steam –Electric Generating Plant, et al Final Order*, dated January 8, 2007. Section 505(b)(2) of the Act also provides that a petition shall be based on objections raised with reasonable specificity during the public comment period provided by the permitting agency. EPA reviewed the comments submitted to Kentucky during the public comment period for the Spurlock Station title V permit and found that the comments provide a sufficient basis for the petition – the objections raised in the petition were timely raised, with reasonable specificity, in Petitioner's written comments. Therefore, Petitioner has satisfied this statutory requirement.

### **IV. ISSUES RAISED BY THE PETITIONER**

#### **A. Use of Credible Evidence**

Petitioner's Comment: Petitioner points to the permit's specific monitoring requirements for Unit 1 and asserts that Section B.4.a. could be read to limit the credible evidence that may be used to establish an opacity violation. Petitioner states that when the continuous opacity monitoring system (COMS) indicates an



exceedance of the opacity standard, the permit requires the source to either conduct a Method 9 test or accept the COMS readout, but asserts that this provision is not a limit on the type of evidence that can be used to enforce the underlying opacity limit. Petitioner asks the Administrator to object to the permit because it may create confusion on this point.

EPA's Response: EPA interprets the title V permit to allow EPA, KYDAQ, citizens and EKPC to use any credible evidence to determine compliance with and/or enforce an applicable requirement of the permit. This interpretation is grounded in both the CAA's statutory and regulatory enforcement provisions, as well as the provisions of the title V permit itself.

The Act provides EPA, KYDAQ and citizens with authority to bring enforcement actions against a source for violation of any requirement or prohibition of an applicable implementation plan or permit, including a title V permit. 42 U.S.C. §§ 7413(a), 7604(a)(1), 7604(f)(4). Section 113(a) of the CAA provides that EPA may bring an enforcement action based on "any information." 42 U.S.C. § 7413(a). In response to a 1984 district court ruling that limited the evidence EPA could use to prove a violation of an emission standard or limitation, Congress amended Section 113(e) of the CAA in 1990, to clarify that "any credible evidence" could be used for compliance and enforcement purposes. 42 U.S.C. § 7413(e).

EPA promulgated the Credible Evidence Rule (CER) following the 1990 CAA Amendments, to further clarify that any credible evidence could be used for compliance with the new title V permit program, as well as other compliance and enforcement efforts. 62 Fed. Reg. 8314 (February 24, 1997). As stated in the preamble, the CER "merely removes what some have construed to be a regulatory bar to the admission of non-reference test data to prove a violation of an emission standard, no matter how credible and probative those data are that a violation has occurred." 62 Fed.Reg. at 8315. Specifically, the CER was "designed to clarify that non-reference test data can be used in enforcement actions, and to remove any potential ambiguity regarding this data's use for compliance certifications under Section 114 and title V of the [CAA]." 62 Fed.Reg. at 8314. Further, to clarify the ability of citizens to use any credible evidence (such as in an action under section 304 of the CAA), EPA noted in the CER that "today's rule creates no new rights or powers for citizen enforcers; instead, the rule clarifies existing EPA regulations. Citizens have been free to use credible evidence in [CAA] enforcement and have prevailed in at least two court cases using it." 62 Fed. Reg. at 8318. *See e.g., Sierra Club v. Public Service Company of Colorado, Inc.*, 894 F. Supp. 1455 (D. Colo. 1995); *Unitek Environmental Services, Inc. v. Hawaiian Cement*, 1997 U.S. Dist. LEXIS 19261 (D. HI 1997); *but see, Sierra Club v. TVA*, 430 F.3d 1337 (11<sup>th</sup> Cir. 2005) (prohibiting a citizen from admitting evidence because Alabama had not adopted the CER into its SIP).

The CER also included changes to federal regulations, notably, 40 C.F.R. § 60.11(g), related to New Source Performance Standards. That regulation specifically provides:

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

40 C.F.R. § 60.11(g).

Further, EPA interprets Kentucky's State implementation Plan, consistent with the 1997 CER, specifically 40 C.F.R. § 51.212(c), as not precluding any entity, including EPA, citizens, or the state, from using any credible evidence to enforce emission standards, limitations, conditions or any other provision of the Kentucky SIP.<sup>5</sup> See Letter from Stephen L. Johnson, EPA Administrator, to Robert Ukeiley, June 29, 2007 (Response to Petition for Rulemaking on Credible Evidence Revisions in Kentucky).

Finally, the title V permit here does not preclude the use of any credible evidence in determining compliance with applicable requirements. There is no language in the permit which Petitioner can identify that implies or affirmatively disallows the use of any credible evidence. Furthermore, the absence of language regarding the use of credible evidence in the title V permit does not preclude its use in demonstrating compliance. See e.g., *In the Matter of Motiva Enterprises Final Order*, Petition Number: II-2001-05, dated September 24, 2004; and *In the Matter of Starrett City Final Order*, Petition Number: II-2001-01, dated December 16, 2002. The Spurlock Station permit does not state that Method 9 is the sole or exclusive method used to determine compliance. The permit refers to Method 9 test as the reference test method provided in the SIP for the purpose of determining compliance with the opacity limit. However, as EPA explained in adopting the

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<sup>5</sup> The Kentucky SIP also includes language indicating that Kentucky can use "any information" to enforce its SIP. See, e.g., 40 KAR 50:055 (concerning compliance); and 401 KAR 50:060 (concerning enforcement). These two provisions were incorporated into the Kentucky SIP on May 4, 1989 (54 Fed. Reg. 19169) and July 12, 1982 (47 Fed. Reg. 30059), respectively. Further, Kentucky's regulations include the incorporation by reference of 40 C.F.R. §§ 60.11 and 61.12 in 401 KAR 60:005, Section 2(1); and 401 KAR 57:002, Section 2(1), respectively. These provisions are not contained in the Kentucky SIP because regulations pertaining to new source performance standards and hazardous air pollutants are not included as part of the SIP for any state.

CER, this means that reference tests, such as a Method 9 test in this case, performed under EPA and State regulations are the benchmark against which to compare other emissions data or parametric data, or engineering analyses, regarding source compliance. *See* 62 Fed. Reg. 8314. Regardless of whether the source chooses to conduct a Method 9 test, the permit requires the source to maintain records of all COMS data which ensures the availability of this data in an enforcement action. In short, nothing in the permit limits EPA, KYDAQ, or citizens from using credible evidence to bring an enforcement action for opacity violations consistent with EPA's 1997 Credible Evidence Rule and Kentucky's SIP.

While the permit allows EKPC to conduct a Method 9 test as a response to an exceedance of the opacity standard, as measured by COMs, EKPC could conduct such a test irrespective of whether the permit specifically allowed it as a response to the opacity exceedance. The permit's provision for a Method 9 test does not change the fact that the COM may measure an exceedance and does not affect the right of EPA, Kentucky or citizen to bring an enforcement action to remedy the exceedance. In short, EPA does not believe this permit provision has any effect on the scope of the evidence that can be utilized in enforcement action, given that Petitioner has not demonstrated that the permit is inconsistent with the Act. EPA denies the petition with respect to this issue.

#### **B. Unit 2 Operating Limits**

Petitioner's Comment: Petitioner asserts that the permit appears to require no operating limits for Unit 2 when this Unit should be subject to operating limits carried over from the underlying state issued operating permit. Petitioner points out that the 1976 construction permit application submitted for Unit 2 represented that EKPC would construct and operate a pulverized coal unit with a maximum heat input of 4,850 million British thermal units per hour (mmBtu/hr). Further, this maximum heat input appears in the 1982 and 1983 state issued operating permits covering Unit 2. Petitioner also points out that EPA issued an NOV and filed an enforcement suit against EKPC for violating the 4,850 mmBtu/hr heat input limit (referenced in footnote 1, above). Petitioner asks the Administrator to object to the title V permit because it lacks an enforceable heat input limit.

EPA's Response: Petitioner's primary argument is that the title V permit states "none" under the permit category "Operating Limits" for Unit 2. Petitioner argues that the title V permit, therefore, does not contain an enforceable operating limit. EPA recognizes that there is no maximum heat input limit stated under "Operating Limits" in the title V permit. EPA also notes that the title V permit specifically states in Section G.15, that the title V permit subsumes and incorporates all of the applicable requirements from the existing operating permit. EPA believes this would include the maximum heat input from the underlying state operating permit (SOP).

However, on March 30, 2007, as part of the ongoing EPA enforcement action described above, the United States District Court for the Eastern District of Kentucky ruled that the heat input limit in the underlying SOP ceased to be enforceable upon issuance of EKPC's 1999 title V permit. Specifically, the court stated: "[T]o the extent any term condition, or description in the 1983 SOP was modified by the title V permit or is inconsistent with the title V permit, the later-issued title V permit must control. The Court finds that the reference to the '4850 mmBtu/hr' in the title V permit is just such a term." *United States v. East Kentucky Power Cooperative*, slip op. at 21. The court noted that KYDAQ listed Spurlock Unit 2's maximum heat input as a "description" in the title V permit rather than as a federally enforceable "Operating Limitation." Slip op. at 20-25. The court further ruled that the "description" identifying the "maximum continuous rating" of 4,850 mmBtu/hr listed for Spurlock Unit 2 in the 1999 title V permit was not an enforceable limitation as it appeared in that permit. *Id.* The title V permit that is the subject of this petition contains language similar to the 1999 title V permit. Therefore, according to the ruling of the court, the title V permit does not contain the maximum heat input limit contained in the underlying SOP.

In addition, the use of the term "modified" in the language cited above cannot be read to mean that the heat input limit in the 1983 SOP was not an "applicable requirement" within the meaning of 40 C.F.R. § 70.2, or that the title V permit eliminated the heat input requirement from the 1983 SOP. The title V program does not impose new applicable requirements nor is the title V permitting process the appropriate mechanism for changing or modifying applicable requirements found in underlying permits. Instead, the underlying permit in which the applicable requirement is found must be modified, and then incorporated into the title V permit as an applicable requirement.<sup>6</sup> Thus, the placement of the maximum heat input in the description section of EKPC's 1999 title V permit could not have eliminated the heat input limit as an applicable requirement of the underlying 1983 SOP.

Based on the foregoing, EPA finds that the title V permit is deficient for its failure to include as an applicable requirement the maximum heat input limit found in the underlying 1983 SOP. Therefore, I grant the petition on this issue and direct KYDAQ to amend the permit and to include the applicable heat input limit for Unit 2 under the "Operating Limits" category of the permit.<sup>7</sup>

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<sup>6</sup> To the extent that a state with a merged title V/PSD permitting program (such as Kentucky's) seeks to change applicable requirements in an underlying permit, such changes must be clearly delineated as being made outside of the title V part of the process and the rationale for the change must be clearly stated.

<sup>7</sup> It is apparent the EKPC was aware that the heat input limit was an enforceable limitation in that it previously requested that KYDAQ revise the maximum heat rate for Unit 2 from 4,850 million mmBtu/hr to 5,3555 mmBtu/hr. KYDAQ denied EKPC's request when they informed EKPC that a PSD permit was required for such modification.

EPA wishes to emphasize that its decision to grant Petitioner's request on this issue does not conflict with the proposed consent decree that will resolve EPA's civil enforcement action for EKPC's alleged violations of the maximum heat input limit contained in its underlying state operating permit, filed on January 29, 2004. Paragraph 165 of the proposed consent decree requires EKPC to apply for an amendment to its title V permit for the Spurlock Plant that incorporates a maximum continuous rating (MCR) of 5,600 mmBtu/hour. The proposed consent decree does not provide that this MCR replaces the 4,850 mmBtu/hour heat input limit found in its underlying 1983 SOP, nor does it otherwise alter the maximum heat input limit contained in the underlying 1983 SOP.

Further, although the proposed consent decree in paragraph 119 releases EKPC from claims arising from the alleged violations of Parts C and D of the Act, failure to obtain an operating permit that incorporates applicable requirements under the Kentucky SIP, and operation of Spurlock Unit 2 above a maximum heat input of 4,850 mmBtu/hr, the proposed consent decree does not relieve KYDAQ of its obligation under Section 504, 42 U.S.C. § 7661c, and 401 KAR 52.020, to ensure that the Spurlock Unit 2 title V permit contain all applicable requirements under the Act. This includes the maximum heat input limit contained in EKPC's 1983 SOP. Therefore, KYDAQ must amend EKPC's title V permit to incorporate the maximum heat input limit from the underlying state permit or EKPC must apply to KYDAQ under the Kentucky SIP for a permit that would authorize a change in that heat input limit, which in turn would be incorporated in the title V permit.

### **C. New Source Review (NSR) Compliance Schedule for Unit 2**

Petitioner's Comment: Petitioner asserts that the EKPC permit is not in compliance with the CAA because it does not assure that Unit 2 is in compliance with applicable PSD requirements and does not include a compliance schedule to bring the Spurlock Station into compliance with applicable PSD requirements, which are found in the Act and Kentucky's SIP. Petitioner points out that EPA issued an NOV to EKPC for alleged PSD violations at Unit 2 and also filed a complaint in federal district court alleging similar violations. Petitioner asserts that where EPA has issued an NOV alleging CAA violations, the title V permit must include compliance schedules.

EPA's Response: EPA disagrees with Petitioner's conclusion. Petitioner has not sufficiently demonstrated to the Administrator that the permit is out of compliance with the Act, and therefore, EPA denies the petition with respect to this issue.

#### **1. Enforcement and Regulatory History**

EPA issued an NOV to EKPC on January 24, 2003, alleging PSD violations at the Spurlock Station. EPA filed a civil complaint in federal district court for the

Eastern District of Kentucky on January 29, 2004, alleging similar violations. *See United States v. East Kentucky Power Coop.* Case No. 04-34-KSF (E.D. KY). The alleged violations at Spurlock Station arose from EKPC's failure to operate Unit 2 in accordance with the stated purpose in its application. EKPC's construction permit application stated that all steam generated by Unit 2 would be used solely to generate electricity. However, in August 1992, EKPC began supplying steam to Inland Container. Further, EPA alleged that the increased steam demand created by connecting to and supplying steam to Inland Container violated the CAA because it resulted in an unpermitted significant net increase of emissions. EPA alleged that EKPC's physical changes constituted "major modifications" as defined in the Act and the Kentucky SIP. This claim flowed from EKPC's decision to uprate the boiler at Spurlock Unit 2, and subsequently operate it at heat input levels above the 4850 mmBtu/hr maximum heat input capacity included in its operating permit. EPA alleged in its NOV and complaint that EKPC did not obtain the required PSD permit prior to constructing or operating these alleged major modifications and has subsequently operated Spurlock station without installing or operating BACT, as required by the Act and the Kentucky SIP. On July 2, 2007, the United States and EKPC lodged a proposed consent decree in the U.S. District Court for the Eastern District of Kentucky. Information regarding the settlement can be found at <http://www.epa.gov/compliance/resources/cases/civil/caa/eastkentuckypower.html>. Notably, in the proposed consent decree, EKPC has disclaimed liability for the PSD, Kentucky SIP, New Source Performance Standards, and title V violations alleged in the United States' complaint.

As required by title V of the Clean Air Act, part 70, and the Kentucky SIP, EKPC submitted a title V permit application to KYDAQ for its Spurlock Station. Title V requires a facility to include in its application a description of how the facility will comply with all applicable requirements and a schedule of compliance for requirements with which the source is not in compliance at the time of permit issuance. *See* CAA 503(b); 40 C.F.R. § 70.5(c); and 401 KAR 52:020.

EKPC submitted the required title V permit application to KYDAQ; however, EKPC did not include PSD requirements in the application as applicable requirements, nor a compliance schedule, because the company does not believe PSD requirements have been triggered at the plant.

Petitioner requested that KYDAQ include, in EKPC's title V permit, requirements to obtain a PSD permit. Accordingly, Petitioner asserts that since EPA identified violations cited in the NOV and the complaint filed against EKPC the permit must address the violations and include a compliance schedule pursuant to which EKPC is required to obtain the requisite PSD permit and comply with BACT. As explained in the permit's Statement of Basis at page.1, and KYDAQ's Response to Comments, KYDAQ views the issue of PSD applicability as unresolved in light of the on-going litigation and indicated that depending on the outcome of the litigation, it may be required to reopen the permit. Accordingly,

KYDAQ did not include PSD requirements in the Spurlock Station permit as applicable requirements.

The Petitioner petitioned EPA to object, under CAA 505(b)(2), to the Spurlock Station permit, and require a compliance schedule. All sources subject to title V must have a permit to operate that assures compliance by the source with all applicable requirements. *See* CAA § 504(a); 40 C.F.R. § 70.1(b). If a source is not in compliance with applicable requirements, then the title V permit must also contain a schedule of compliance leading to the facility's compliance with applicable requirements. *See* CAA § 504(a); 40 C.F.R. §§ 70.1 (b), 70.6(c)(3). Such applicable requirements may include the requirement to obtain PSD permits that comply with applicable PSD requirements under the Act, EPA regulations, and state implementation plans. *See generally* CAA §§ 110(a)(2)(c), 160-69; 40 C.F.R. §§ 51.166, 52.21. If the state permitting authority includes in a title V permit a requirement that the source does not believe applies, the source may, after exhausting any applicable state administrative appeal processes, seek review in state court. That case would involve the source and the state permitting agency, but, absent intervention, not the U.S. EPA.

The Petitioner bases its petition on the fact that the Agency has issued an NOV and filed a complaint in U.S. District Court alleging PSD violations. Petitioner argues that the NOV and the allegations therein, coupled with the complaint, establish the applicability of PSD to Spurlock Station.<sup>8</sup> Petitioner concludes, therefore, that the lack of any PSD requirements or a compliance schedule demonstrates that the permit is not in compliance with the Act, and thus requires the permit to address the violations alleged in the NOV and complaint.

## 2. Discussion

Contrary to Petitioner's views, and as previously explained by EPA in declining to object to two title V permits issued to Georgia Power Company, the issuance of an NOV and/or the filing of a complaint alone is not sufficient evidence to make the requisite "demonstrat[ion]" under section 505(b)(2). *See generally In the Matter of Georgia Power Company, Bowen Steam – Electric Generating Plant, et al*, Final Order, dated January 8, 2007, at 5-9. Under section 113(a)(1), "[w]henever, on the basis of any information available to the Administrator, the Administrator finds that any person has violated or is in violation of any requirement or prohibition of an applicable implementation plan or permit, the Administrator shall [issue an NOV]." An NOV is simply one early step in the EPA's process of determining whether a violation has, in fact, occurred. It is not a final agency action and is not subject to judicial review. It is well-recognized that no legal consequences flow from an NOV, and an NOV does not have the force or effect of law. *See Pacificorp v. Thomas*, 883 F.2d 661 (9<sup>th</sup> Cir. 1988); *Asbestec Constr. Servs. v. EPA*, 849 F.2d 765, 768-69 (2<sup>nd</sup> Cir. 1988); *Union Elec. Co. v.*

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<sup>8</sup> In its petition, Petitioner offers no evidence of PSD noncompliance, other than EPA's NOV and the United States' complaint.

*EPA*, 593 F.2d 299, 304-06 (8<sup>th</sup> Cir. 1979); and *West Penn Power Co. v. Train*, 522 F.2d 302, 310-11 (3<sup>rd</sup> Cir. 1975).

A complaint is simply “a pleading which sets forth a claim for relief,” and includes a “short and plain statement of the claim that the [plaintiff] is entitled to relief ....” *See* Fed. R. Civ. P. 8(a). While a plaintiff may be subject to sanctions for filing a complaint that includes inaccurate allegations, *see* Fed. R. Civ. P. 11, the complaint does not in-and-of itself prove the facts plead. Rather, as the Eleventh Circuit has noted, when EPA files a complaint in a civil enforcement action, “if the defendant believes that the EPA has reached its conclusions based upon erroneous facts or an incorrect understanding of the law, the defendant may make legal and factual arguments in an independent forum—one that enables the defendant to utilize a panoply of pre-established procedural rights.” *See TVA v. Whitman*, 336 F.3d 1236, 1241 (11<sup>th</sup> Cir. 2003).

Thus, both an NOV and a complaint are initial steps in the process of determining whether the source is in violation of any CAA requirements. These steps are commonly followed by additional investigation or discovery, information-gathering, and exchange of views that occur in the context of an enforcement proceeding and that are considered important means of fact-finding under our system of civil litigation. As a result, EPA believes that the fact of the issuance of an NOV or the filing of a complaint does not definitively establish the necessity of a compliance schedule for title V purposes.

Petitioner also points to the information contained in the NOV allegations, and appears to suggest that such information is sufficient to “demonstrate[]” PSD applicability, under CAA section 502(b)(2). However, information contained in an NOV (or a complaint) alone is not sufficient to demonstrate that a requirement is applicable for permitting purposes. EPA may consider an NOV’s filing or complaint’s issuance as a relevant factor when determining whether the overall information presented by the petitioner – in light of all the factors that may be relevant – demonstrates the applicability of a requirement for title V purposes. Other factors that may be relevant in this determination include the quality of the information, whether the underlying facts are disputable, the types of defenses available to the source, and the nature of any disputed legal questions, all of which would need to be considered within the constraints of the title V process. If, in any particular case, these factors are relevant and the Petitioner does not present information concerning them, then EPA may find that the Petitioner has failed to present sufficient information to demonstrate that the requirement is applicable.

Another factor that EPA considers is the potential impact enforcement cases and title V decisions have on one another, as illustrated by the following example. As is the case here, EPA could bring a civil judicial enforcement action for violations by a source of a substantive rule. The source and EPA would be engaged in litigation over the merits of the allegations of EPA’s judicial complaint. Should EPA prevail in that enforcement proceeding, or should the source and EPA



propose to settle their differences – as has happened in this particular enforcement proceeding – then the court would enter judgment in the form of an order or consent decree requiring the source achieve compliance with the law either pursuant to the terms of a compliance order, or, at a minimum, by a date certain. (*In the Matter of Georgia Power Company, Bowen Steam – Electric Generating Plant, et al Final Order*, dated January 8, 2007; and *In the Matter of Lovett Generating Station Final Order*, Petition Number: II-2001-07, dated February 19, 2003). In the event of a proposed settlement, the enforcement proceeding would not be “final” or concluded until such time that the consent decree is entered by the court. Thus, should the proposed consent decree be entered by the court in the related enforcement action, KYDAQ and EKPC would need to appropriately respond by incorporating the compliance schedule(s) required by the consent decree into the title V permit. Specifically, the proposed consent decree requires EKPC to amend its title V permit within 180 days of entry of the consent decree to “include a schedule for all Unit-specific performance, operational, maintenance, and control technology requirements established by this consent decree including, but not limited to, emission rates, removal efficiencies, fuel limitations, tonnage limitations, and the requirement in Paragraph 72 pertaining to the surrender of SO<sub>2</sub> Allowances.” Proposed Consent Decree, ¶ 166.

Separately, in the context of the issuance of a title V permit to the same source, the permitting authority may determine (on its own or as a result of an EPA objection) that the source is in non-compliance with the substantive rule (i.e., applicable requirement) that is the subject of the enforcement proceeding, and require in the title V permit that the source achieve compliance with the applicable requirement pursuant to a schedule of compliance. Under such circumstances, the source could challenge the permit, petition EPA for relief, and appeal to the appropriate circuit court. In these circumstances, the source and EPA could find themselves in two separate forums for litigating essentially the same issues - whether the substantive rule was violated and the appropriateness of a compliance schedule – which risks potentially different and conflicting results.

In light of the settlement lodged but not yet entered in the federal court enforcement action between the United States and EKPC, the fact that EKPC continues to dispute its PSD liability notwithstanding reaching that settlement with the United States, and Petitioner’s sole reliance on the existence of an NOV and complaint in the enforcement action, I find that the petition does not “demonstrate” that the title V permit does not comply with the Clean Air Act. At this point, the PSD claims in the complaint have not been fully adjudicated and the proposed consent decree has not yet been entered in federal court, and thus, Petitioner has not met its burden of showing that the permit is not in compliance with the Act.

I note that, while the permit does not contain PSD as applicable requirements for Unit 2, it also does not provide any safe harbor from enforcement of PSD requirements. Thus, the permit does not disturb any ongoing or future

enforcement action against EKPC for violations of PSD requirements.<sup>9</sup> EPA believes that, considering these specific circumstances it would be premature to make a determination on PSD applicability and any NSR compliance schedule requirements. The appropriate path is to allow the PSD applicability issue to be fully resolved by the federal district court in the enforcement process before determining that the title V permit must contain such requirements.

For the reasons explained herein, EPA denies the petition with respect to this issue.

#### **D. Construct and Operate Unit 3 in Accordance with Permit Application**

Petitioner's Comment: Petitioner asserts that the permit omits a requirement that EKPC construct and operate Unit 3 in accordance with the plans and specifications submitted with the pre-construction permit application. The CAA and requires that a PSD applicant construct and operate the source consistent with the specifications of the permit application. 40 C.F.R § 52.21(r). This includes, but is not limited to, the fuel, control equipment, and maximum heat rating included in the permit application. Petitioner is requesting that the Administrator object to the permit and require that it be revised to include these requirements.

EPA's Response: EPA disagrees with Petitioner's conclusion. The permit is written based on the specifications, terms and conditions of the application submitted by EKPC, and as a pre-requisite, that application must be complete and accurate in order to comply with the applicable regulations. 401 KAR 52:020. Petitioner's reliance on 40 C.F.R § 52.21(r) to argue that the CAA requires that a PSD applicant construct and operate the source consistent with and according to the specifications provided in the permit application is misplaced – that regulation governs federally issued or delegated PSD permits. For Kentucky, which issues PSD permits pursuant to a federally approved SIP, the applicable and relevant federal regulation is set forth at 40 C.F.R. § 51.166(r)(1), which states that the SIP for an approved PSD program “shall include enforceable procedures to provide that approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the plan and any other requirements under local, State or Federal law.” While Petitioner correctly notes the relevant state PSD law, Petitioner fails to recognize that under that law, the source must be operated “in accordance with the application [to construct]... or under the terms of an approval to construct.” 401 KAR 51:017(16) (emphasis added). Because a PSD source in Kentucky that operates in accordance with its permit to construct has met

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<sup>9</sup> In the ongoing case, *U.S. v East Kentucky Power Cooperative*, Case No. 04-34-KSF (E.D. KY), the Sixth Circuit recently ruled that EPA had not proven in its *Motion for Summary Judgment*, when and how frequently EKPC exceeded the 4,850 mmBtu/hr limit, therefore, that issue would have to be addressed at a future trial. The Court also ruled that EPA had not met its burden of proof required to establish the relationship between EKPC's uprating its boilers to 4 million pounds per hour of steam and an alleged corresponding increase in the heat input to the boiler.

the requirements of the applicable state and federal law, it is not necessary for KYDAQ to include language in the title V permit requiring EKPC to construct and operate Unit 3 consistent with the specifications of the PSD permit application. Therefore, EPA denies the petition with respect to this issue.

### **E. BACT Limits for Unit 3**

Petitioner's Comment: As a general matter, Petitioner claims BACT limits established in prior title I permitting actions can be revisited in subsequent title V permitting processes if it is established that the historic BACT determination was erroneous. With regard to the Spurlock Station title V permit, Petitioner alleges that the permit contains erroneous BACT limits for Unit 3, and relies heavily on EPA's Order *In re Chevron Products Co.*, Petition No. IX-2004-08 (*Chevron*), to substantiate its claim.

EPA's Response: The Petitioner has failed to demonstrate that the Spurlock Station title V permit for Unit 3 is not in compliance with the applicable CAA requirements, including the requirements of the Kentucky SIP. CAA Section 505(b)(1). Further, as stated in *Chevron*, pursuant to EPA policy, the Agency generally does not object to the issuance of a title V permit due to concerns over BACT or related determinations made long ago during a prior reconstruction permitting process. *Id.* at 9; *see also* Letter to John S. Seitz to Robert Hodanbosi and Charles Lagges at page 2 (May 20, 1999).

Notwithstanding EPA's general policy not to object to the issuance of a title V permit due to concerns over BACT determinations made during a prior reconstruction permitting process, EPA clearly retains its authority to reopen a permit to reevaluate BACT determinations under limited circumstances. Specifically, EPA will reopen a permit when an emissions limit unit has not gone through the proper PSD permitting process, and therefore lacks one or more applicable requirements of the CAA in the draft or proposed title V permit. *See Chevron* at 11 n13. EPA exercised its authority on this basis to reopen the Chevron permit because the BACT limits were adopted under local district rules that were not approved by EPA and that provided an exemption from NSR requirements. The local district adopted the rule exemption 11 months prior to the submittal of Chevron's application and deleted it within two months after approving construction of the Chevron unit in question. Consequently, EPA concluded that there was insufficient information to make a determination as to whether the Chevron permit limits accurately reflected BACT or whether the NSR requirements were followed. However, in granting the *Chevron* title V petition on the BACT issue, EPA made it abundantly clear that it was doing so solely because the specific facts demonstrated degrees of deficiency and a possible compromise in the PSD permitting process. *See id.* at 11-13 and n13.

The scenario presented in this petition concerning the BACT limits for Unit 3 is quite distinguishable from *Chevron*. KYDAQ adopted the Unit 3 limits under

an EPA approved PSD program, and EPA and the public were given the opportunity to review and comment on these limits prior to the issuance of the final PSD permit in June 2002. At that juncture, Petitioner clearly had the opportunity to raise its concerns regarding the BACT limits for Unit 3, but for unknown reasons, it failed to do so. In this instance, Petitioner has not demonstrated, and there is nothing in the record to suggest any deficiency in the PSD permitting process or that Unit 3 BACT determination was unreasonable. (The Supreme Court held that EPA may act to block construction of a new major pollutant emitting facility if EPA finds that the state's BACT determination was unreasonable.) *Alaska Dep't of Environmental Conservation v. EPA*, 540 U.S. 461, 488 (2004). In addition, Petitioner has failed to demonstrate that the title V permit including the Unit 3 BACT limits, is not in compliance with the applicable CAA requirements.

For these reasons, and as explained more fully below, EPA denies the petition with respect to this issue.

### 1. Visible Emission BACT Limits

Petitioner's Comment: Petitioner claims the permit does not contain visible emission BACT limits for PM and sulfuric acid mist (SAM) from Unit 3. Any new or modified major source must have a permit requiring BACT and BACT is expressly defined as an "emissions limitation including a visible emission standard," for each "regulated NSR pollutant." 401 KAR 51:001, Section 1(25).

EPA's Response: Consistent with KYDAQ's Response to Comments, EPA concludes that opacity is not an NSR regulated pollutant, and thus, there is no applicable federal or state requirement to have a BACT opacity limit. *See* KYDAQ's Response to Comments at page 46; *see also Knauf Fiber Glass*, 8 E.A.D. 121 (EAB 1999) (stating that an opacity limit "is not a requirement of the federal PSD program"). It is permissible for an agency to use opacity as an emission limitation. Contrary to Petitioner's assertion, the inclusion of visibility in the definition of BACT merely clarifies that a visible emission standard is an acceptable form of a BACT limit for an NSR regulated pollutant. *See Alabama Power v. Costle*, 636 F.2d 323, 408 (D.C. Cir. 1979) (emphasis added). Accordingly, opacity may be used as an indicator of particulate matter, fumes, gases or vapor but it is not independently regulated. This position is consistent with EAB and state decisions finding that PSD does not necessarily require opacity limits. *See generally In re Amerada Hess Corp. Port Reading Refinery*, PSD Appeal No. 04-03, slip op. at 11 (EAB Feb. 1, 2005); *In re Air Pollution Control Construction and Operation of a 500 MW Pulverized Coal-Fired Plant Known as Weston Unit 4* in Marathon County, Wisconsin, Wis. Div. of Hearing and Appeals, Case No. IH-04-21 (Feb. 10, 2006). The Spurlock permit as written provides direct and specific limits for the pollutants identified by Petitioner (PM and SAM). Further, the regulated NSR pollutant PM/PM<sub>10</sub> will also be monitored by PM continuous emission monitoring system (CEMS), thus providing a continuous method for ensuring compliance with the particulate emissions standards. Because

opacity is not an NSR regulated pollutant, and there is not an applicable federal or state requirement to have a BACT opacity limit, EPA denies the petition with respect to this issue.

## 2. Sulfur Dioxide (SO<sub>2</sub>) Limit

Petitioner's Comment: The SO<sub>2</sub> limit for Unit 3 does not represent BACT as of June 2002, when construction commenced on Unit 3. Other permits issued prior to the time construction commenced on Unit 3, contain much lower SO<sub>2</sub> limits. Therefore, these lower limits must be presumed to be BACT for Unit 3 since EKPC has not demonstrated that it is technologically infeasible.

EPA's Response: As stated above, Petitioner has failed to demonstrate that the SO<sub>2</sub> limit for Unit 3 contained in this title V permit is not in compliance with the applicable CAA requirements, including the requirements of the Kentucky SIP. CAA § 505(b)(1). Based on the record before the Agency, the existing SO<sub>2</sub> limit for Unit 3 contained in this title V permit represents BACT for Unit 3. This BACT determination was made during a prior permitting action, at which time Petitioner had the opportunity to raise the issue but failed to do so. *See* KYDAQ Response to Comments at page 32. As explained above, the Agency generally will not object to a title V permit due to concerns over BACT determination made in a prior PSD preconstruction permitting process. *See discussion* Section E, *supra*.

As a basis for its position, Petitioner provides examples of lower limits established for SO<sub>2</sub> at similar sources throughout the country. However, Petitioner fails to provide any analysis to demonstrate that these BACT limits are appropriate for Unit 3. The other sources that Petitioner references are distinguishable from Unit 3 based on several factors, including plant size and fuel type. It is well recognized that due to characteristics of individual plant processes, the application of identical technology may not yield identical emission limits. *See Newmont Nevada Energy Investments, LLC TS Power Plant*, PSD Appeal No. 05-04, slip op. 16-17 (EAB Dec. 21, 2005); *In re. Knauf Fiberglass GmbH*, 8 EAD at 143 (EAB 1999). Petitioner refers to the PSD permit for the AES Puerto Rico facility without pointing out that the AES permit has a specific and distinguishable condition that limits the fuel the source can burn to a maximum of 1 percent sulfur. Spurlock Unit 3 has no such limits and is permitted to burn coal in the 4.5 percent sulfur range. In arguing that the limit in the AES Puerto Rico permit is BACT for Unit 3, Petitioner disregards the "case-by-case" site specific nature of the BACT analysis. CAA § 169(3) and 401 KAR 51.001. Petitioner has failed to establish that KYDAQ's BACT determination for the SO<sub>2</sub> limit was unreasonable, or otherwise not in compliance with the applicable CAA requirements. *See generally Alaska Dep't of Environmental Conservation*, 540 U.S. 461, 488 (2004). For these reasons, EPA denies the petition with respect to this issue.

### 3. Particulate Matter (PM) Limit

Petitioner's Comment: The PM limit for Unit 3 does not represent BACT for Unit 3 as of the date of construction on June 22, 2002. Other permits issued prior to the commencement of Unit 3's construction contain much lower PM limits, and therefore, these lower limits must be presumed to be BACT for Unit 3 unless EKPC demonstrates that such limits are not technically feasible or cost effective.

EPA's Response: As stated above, Petitioner has failed to demonstrate that the title V permit is not in compliance with the applicable CAA requirements, including the requirements of the Kentucky SIP. CAA, Section 505(b)(1). The existing PM limit established in the permit represents BACT for Unit 3. This BACT determination was made during a prior permitting action, at which time Petitioner had the opportunity to raise the issue but failed to do so. *See* KYDAQ Response to Comments at page 33. Further, the Agency generally will not object to a title V permit due to concerns over BACT determination made in a prior PSD preconstruction permitting process. *See discussion* Section E, *supra*.

As a basis for claiming that the Unit 3 PM limit of 0.015 lb/mmBtu (filterable) does not represent BACT, Petitioner references another source (Northampton facility) that is similar to Unit 3 but fails to recognize that the source has characteristics that influence PM emissions and are distinct from Unit 3, such as fuel type (i.e., Northampton burns anthracite as opposed to high sulfur bituminous coal used in Spurlock Unit 3). *In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. 21 (EAB June 21, 2005); and *In re Prairie State Generating Co.* PSD Appeal No. 05-05 slip op. at 71 (August 24, 2006). Moreover, Petitioner neglects to mention that the PM limit for Unit 3 is actually lower than some limits imposed on other similar facilities (AES Beaver Valley and Archer Daniel Midland) prior to June 2002. Overall, Petitioner fails to provide any analysis to demonstrate that its preferred PM BACT limit for this pollutant is appropriate for Unit 3 and in so doing, Petitioner continues to disregard the "case-by-case" site specific nature of the BACT analysis. CAA § 169(3) and 401 KAR 51.001. In its petition, the Petitioner has failed to establish that KYDAQ's BACT determination for PM limit was unreasonable for Unit 3, or otherwise not in compliance with the applicable CAA requirements. *See generally Alaska Dep't of Environmental Conservation*, 540 U.S. 461,488 (2004). For these reasons, EPA denies the petition with respect to this issue.

### 4. Nitrogen Oxides (NO<sub>x</sub>) Limit

Petitioner's Comment: The NO<sub>x</sub> limit for Unit 3 does not represent BACT for Unit 3 as of the date of construction on June 22, 2002. Other permits issued prior to the commencement of Unit 3's construction contain much lower NO<sub>x</sub> limits and therefore, these lower limits must be presumed to be BACT for Unit 3 unless EKPC demonstrates that such limits are not technically feasible or cost effective.

EPA's Response: As stated above, Petitioner has failed to demonstrate that the title V permit is not in compliance with the applicable CAA requirements, including the requirements of the Kentucky SIP. CAA § 505(b)(1). The existing NO<sub>x</sub> limit established in the permit represents BACT for Unit 3. This BACT determination was made during a prior permitting action, at which time Petitioner had the opportunity to raise the issue but failed to do so. *See* KYDAQ Response to Comments at page 33. As explained previously, the Agency generally will not object to a title V permit due to concerns over a BACT determination made in a prior PSD preconstruction permitting process. *See discussion* Section E, *supra*.

As a basis for its position that the Unit 3 NO<sub>x</sub> limit of 0.07 lb/mmBtu does not represent BACT, Petitioner provides examples of lower limits established for NO<sub>x</sub> at facilities that use boilers similar to Spurlock Unit 3, but Petitioner fails to recognize that these other facilities have striking differences that distinguish them from Unit 3. For instance, the BMCP facility cited by Petitioner is a 20 megawatts (MW) facility burning 0.6 percent sulfur coal, while Unit 3 is a 270 MW unit burns high sulfur bituminous coal. Moreover, Petitioner fails to acknowledge that the NO<sub>x</sub> limit for Unit 3 is consistent with the NO<sub>x</sub> limits imposed on similar facilities (NEVCO-Sever, Kentucky Mountain Power and JEA Northside). In presenting its position, Petitioner does not provide any analysis to demonstrate that its preferred BACT limits for NO<sub>x</sub> is appropriate for Spurlock Station Unit 3. In so doing, Petitioner continues to disregard the "case-by-case" site specific nature of the BACT analysis. CAA § 169(3) and 401 KAR 51.001. Because Petitioner has failed to establish that KYDAQ's BACT determination for the NO<sub>x</sub> limit was unreasonable for Unit 3, or otherwise not in compliance with the applicable CAA requirements, EPA denies the petition with respect to this issue.

## **5. SAM Limit**

Petitioner's Comment: The SAM limit for Unit 3 does not represent BACT for Unit 3 as of the date of construction on June 22, 2002. Other permits issued prior to the commencement of Unit 3's construction contain much lower SAM limits and therefore, these lower limits must be presumed to be BACT for Unit 3 unless EKPC demonstrates that such limits are technically infeasible or not cost effective.

EPA's Response: As stated above, Petitioner has failed to demonstrate that the title V permit is not in compliance with the applicable CAA requirements, including the requirements of an applicable implementation plan. CAA § 505(b)(1). The existing SAM limit established in the permit represents BACT for Unit 3. This BACT determination was made during a prior permitting action, at which time Petitioner had the opportunity to raise the issue but failed to do so. *See* KYDAQ's Response to Comments at page 33. Further, the Agency generally will not object to a title V permit due to concerns over BACT determination made in a prior preconstruction permitting process. *See discussion* Section E, *supra*.

As a basis for claiming that the Unit 3 SAM limit of 0.07 lb/mmBtu does not represent BACT, Petitioner references another source (AES Puerto Rico) that is similar to Spurlock Unit 3, but AES Puerto Rico is clearly distinguishable based on the sulfur content of the fuel. Again, Petitioner disregards the "case-by-case" site specific nature of the BACT analysis. CAA § 169(3) and 401 KAR 51.001. Petitioner references the SAM limit contained in the AES Puerto Rico PSD permit but fails to take in consideration that this limit is based on the low sulfur content of the fuel that is also required by the permit. As stated above, Unit 3 has no such limits on coal sulfur content, and is permitted to burn coal in the 4.5 percent sulfur range. Based on these circumstances, the SAM limit for Unit 3 is entirely consistent with other permits where the facility is burning a higher sulfur coal (e.g., Greene Energy Recovery Project, Permit No. PA-30-00150, burning high sulfur waste coal with a 0.0060 lb/mmBtu limit). Since Petitioner has failed to establish that KYDAQ's BACT determination for the SAM limit was unreasonable for Unit 3, or otherwise not in compliance with the applicable CAA requirements, EPA denies the petition with respect to this issue.

#### **F. Enforceable Limits and Monitoring to Ensure Continuous Compliance For Unit 3**

Petitioner's Comment: Petitioner claims that the limits for Unit 3 are not enforceable and do not require monitoring to ensure continuous compliance. A title V permit must require monitoring sufficient to ensure that the source is in continuous compliance with the permit limits during the relevant time periods. 40 C.F.R. § 70.6(a)(3)(i)(B). This permit contains insufficient monitoring to ensure compliance with PM and hazardous air pollutant (HAP) limits, including hydrogen fluoride (HF). The permit establishes opacity as a surrogate for PM/PM<sub>10</sub> compliance and if the source violates the opacity surrogate it is required to conduct a stack test. However, the permit does not explicitly state that a violation of the opacity surrogate range is a violation of the PM limit. In addition, an annual stack test is insufficient to insure compliance with the HAPs limits.

EPA's Response: Petitioner requests that the Administrator object to the permit and require KYDAQ to modify the permit to explicitly state that: (1) COMs can be used to establish violations of the opacity limit, and (2) exceedance of the Compliance Assurance Monitoring (CAM) level for opacity is a violation of the PM standard, in addition to triggering corrective action under the CAM rule. However, EPA has determined that Petitioner's request is inconsistent with the requirements of CAM, Kentucky's SIP and title V. As explained previously, an agency may use opacity as an emission limit for an NSR regulated pollutant but there is no federal or state requirement to have an opacity limit in a permit other than those contained in the applicable CAM regulation. Petitioner's comment fails to recognize that exceedance of the CAM level for PM or HAPs monitors is not a permit violation, but rather a trigger for corrective action under the CAM rule.



Notwithstanding Petitioner's assertion, pursuant to the CAA §§ 114(a)(3), and 504(c), a title V permit is required to provide for "enhanced monitoring" and submission of compliance certification. In *Natural Resources Defense Council, Inc. (NRDC) v. EPA*, 194 F.3d 130 (D.C. Cir.1999), the court confirmed that CAM standards assured compliance as required by the CAA. "CAM enhances monitoring by requiring each major source owner to design a site-specific monitoring system sufficient to provide a reasonable assurance of compliance with emissions standards." *Id.* If CEMS or COMS is required, the Act requires that the source use that system to satisfy the CAM rules. 40 C.F.R. § 64.3(d). In the absence of continuous monitoring, CAM requires that indicators be established to provide an indication of whether or not a control device is working properly. 40 C.F.R. § 64.3(a).

With regard to Unit 3, since a PM CEMS has not yet been installed at Unit 3, opacity is selected as an indicator of PM compliance, as are electrostatic precipitator (ESP) transformer/rectifier set voltages and currents. This is consistent with 40 C.F.R. § 64.3(d), which states in part that "if an opacity standard applies to the pollutant-specific emissions unit, such limit may be used as the appropriate indicator." Since the specific voltage and current levels that indicate proper levels of ESP performance will vary from unit-to-unit, CAM requires testing at Unit 3 to establish the opacity level that will be used as an indicator of particulate matter emissions. As the permit states "the opacity indicator level shall be established at a level that PM emissions are in compliance when opacity is equal to or less than the indicator level." Permit at B4(b) and 40 C.F.R. § 64.4(c)(1).

Petitioner's assertion that EKPC's excess emissions of opacity should be independently considered as violations of the PM standard is unsubstantiated. The Petitioner fails to demonstrate where the permit is lacking enforceable terms and conditions. The permit requires EKPC to install COMS, which includes installing, calibrating, operating, and maintaining the continuous monitoring system for accurate opacity. *Id.* at B4(a). The permit clearly sets forth that the source will monitor COMS readings and record pressure drop across the baghouse once per shift, and Unit 3 is also subject to recordkeeping and reporting requirements. Regarding opacity, the permit requires that the source conduct tests to establish the level of opacity that will be used as an indicator of PM emissions. *See id.* at B4(b). Pursuant to 40 C.F.R. § 64.4(e), the source is required to conduct initial performance tests within 180 days of the permit issuance to establish the opacity and PM correlation, pursuant to 40 C.F.R. § 64.4(e). Similarly, the permit requires EKPC to conduct an initial performance test to establish the parameter monitoring for the control device and upon completion of the initial performance test, the appropriate monitoring range will be incorporated into the permit. EPA has consistently found the combination of parametric monitoring for control of PM, monthly opacity reading, testing and reporting to be adequate. *See e.g., In the Matter of GCC Dacotah Cement Manufacturing Plant Final Order*, Petition Number: VIII-2006-03 at page 10 (June 2007).

Pursuant to 40 C.F.R. § 64.4(c)(1) and the CAM plan filed on October 27, 2005, opacity must be used as an indicator of PM emissions in conjunction with monitoring of the ESP's transformer/rectifier voltage and current levels. As stated above, in order to provide reasonable assurance that PM emissions are in compliance, the permit establishes opacity (20 percent) at a range that is set well below the limit which would constitute a violation. *See* B4(m)(ii) and 40 CFR § 64.4(c)(1).

Further, Petitioner's assertion regarding the lack of monitoring for HAPs limits, including HF, is also incorrect. The permit specifies methods for ensuring compliance with applicable requirements for volatile HAPs, mercury, hydrogen chloride, HF, beryllium, lead and metals. *Id.* In accordance with CAM, the permit requires EKPC to conduct annual stack tests and to use a "grab bag" sampling of the fuel content to establish correlation between HAP content and HAP emissions. EPKC is required to demonstrate compliance with these emission limits annually to validate the correlation between grab samples HAP content and HAP emissions. After three years of demonstrating compliance and correlation between the samples and emissions, the permit affords EKPC the opportunity to use the quarterly grab samples as a surrogate for compliance testing. However, the permit indicates that the annual stack testing not the "grab samples" will be used to determine a violation of the emission limit. Further, the permit states that the compliance with the sulfur dioxide emissions indicates compliance with HF limits. The emission unit uses a dry lime scrubber to control the SO<sub>2</sub> and HF emissions by injecting lime into the scrubber line. The permit requires the source to conduct a performance test to determine a lime injection rate and this method will be used to determine continuous compliance with the HF emission limit.

The position taken by Petitioner that the permit must specify "enforceable limits" for each of the monitored parameters is also not supported by the final CAM rule. As EPA explained in the preamble to that rule,

The CAM approach builds on the premise that if an emissions unit is proven to be capable of achieving compliance as documented by a compliance or performance test and is thereafter operated under the conditions anticipated and if the control equipment is properly operated and maintained, then there will be a reasonable assurance that the emissions unit will remain in compliance. In most cases, this relationship can be shown to exist through results from the performance testing without additional site-specific correlation of operational indicators with actual emission values ...

... the presumptive approach for establishing indicator ranges in part 64 is to establish the ranges in the context of performance testing. To assure that conditions represented by performance testing are also generally representative of anticipated operating conditions, a performance test should be conducted under conditions specified by the applicable rule or, if not specified, generally under conditions representative of maximum emission

potential under anticipated operating conditions. In addition, the rule allows for adjusting the baseline values recorded during a performance test to account for the inappropriateness of requiring that indicator conditions stay exactly the same as during a test. The use of operational data collected during performance testing is a key element in establishing indicator ranges; however, other relevant information in establishing indicator ranges would be engineering assessments, historical data and vendor data. Indicator ranges do not need to be correlated across the whole range of potential emissions.

62 Fed. Reg. 54909, 54926 (October 22, 1997). In addition, EPA has explained that established CAM parameters are not enforceable limits. The CAM rule preamble addressed this by pointing out that:

The obligation to correct excursions as expeditiously as practicable is the enforceable component associated with establishing an indicator range under part 64. Part 64 does not establish that an excursion from an indicator range constitutes an independent violation by itself.

Id. 54931. *See also id* at 54928. Thus, CAM provides a reasonable assurance of compliance with emission limits and consequently, the adoption of CAM as “enhanced monitoring” meets the requirement of the CAA but does not convert the CAM parameters to enforceable permit limits. Accordingly, EPA denies the petition with respect to this issue.

#### **G. BACT Limits for Unit 4<sup>10</sup>**

In arguing that the Unit 4 BACT limits are not in compliance with the PSD requirements of the Clean Air Act, Petitioner describes the BACT selection process, but EPA has determined that Petitioner’s arguments concerning the BACT limits for Unit 4 fail to consider the critical “case-by-case” analysis that defines BACT. CAA § 169(3) and 401 KAR 51.001. PSD permit decisions depend heavily on site-specific analysis, and this case-by-case decision-making inevitably results in substantive differences from permit to permit. *See In re Cardinal FG Co.*, PSD Appeal No. 04-04, slip op. at 11 (Explaining that “BACT is a site-specific determination); *In re Old Dominion Elec. Coop.*, 3 E.A.D. 779, 788-89 (Adm’r 1992) (“PSD permit determinations are made individually under the Act on a case-by-case basis”). Petitioner further ignores that a BACT analysis does not necessarily yield a single objective and correct BACT determination that can be applied to all plants. *See Alaska Dept. of Environmental Conservation*. 540 U.S. 461, 488 (2004). BACT is a site-specific determination resulting in the selection of

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<sup>10</sup> Unlike the BACT issues regarding the previously permitted Unit 3, *see* Section E *supra*, EPA policy has maintained the Agency’s discretion to object to the issuance of a title V permit due to concerns over BACT when the PSD process is merged with the title V process. *See* Letter to John S. Seitz to Robert Hodanbosi and Charles Lagges at page 2 (May 20, 1999).

an emission limitation that represents application of control technology appropriate for the particular facility. See *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 47 (EAB 2001).

As evidenced in EPA's response to Petitioner's BACT Unit 3 challenge, see section IV.E., *supra*, Petitioner continues to overlook the fact that a BACT analysis may consider certain distinguishable factors at a particular facility when setting emission limit, *inter alia*, the type of fuel that will be used, type of source, size of the source and geographic considerations. A high degree of technical judgment must also be exercised in any BACT analysis for coal-fired plants given the wide variety of coals (e.g., anthracite and sub-bituminous) and coal-fired facilities (e.g., pulverized coal, and CFB) available for permitting authorities to consider. *In re BP Cherry Point*, PSD Appeal No. 05-01 slip op. at 71 (EAB June 21, 2005); *In re Prairie State Generating Co.*, PSD Appeal No. 05-05 slip op. at 71 (EAB August 24, 2006).

While EPA agrees with Petitioner's position that BACT requires a forward-looking analysis, BACT also takes into account that the selected limit must be "achievable for such facility." *Newmont Nevada Energy Investments, LLC TS Power Plant*, PSD Appeal No. 05-04, slip op. 16-17 (EAB Dec. 21, 2005). Several EAB decisions reflected this position and explained that "the underlying principle of all these PSD cases is that PSD permit limits are not necessarily a direct translation of the lowest emissions rate that has been achieved by a particular technology at another facility, but those limits must also reflect consideration of any practical difficulties associated with using the control technology." *In re Kendall New Century Dev.*, PSD Appeal No. 03-01, slip op. at 17 (EAB April 29, 2003); *Three Mountain Power*, 10 E.A.D at 38 and 47. The permit issuer must be given some flexibility and "may take into account the absence of long-term data, or the unproven long-term effectiveness of the technology, in setting emissions limitation that is BACT for a facility." *Newmont*, slip op. at 18; and *In re Cardinal FG Co.*, PSD Appeal No. 04-04 (EAB Mar. 22, 2005). The Supreme Court has made it clear that "Congress entrusted state permitting authorities with the initial responsibility to make BACT determinations 'case by case' § 7479(3). See *Alaska Dept. of Environmental Conservation*. 540 U.S. 461, 488 (2004). A state agency, no doubt, is best positioned to adjust for local differences in raw materials or plant configurations, differences that might make a technology 'unavailable' in a particular area." *Id.*

Regarding Petitioner's reliance on the draft NSR Workshop Manual (NSR manual), the EAB has ruled that although the NSR manual provides a framework that assures adequate consideration and consistency within the PSD permitting program, it is not a binding Agency regulation and as such, strict application of the methodology described therein is not mandatory. *In re Tondu Energy Co.*, 9 E.A.D. 710, 719 (EAB 2001); *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 183 (EAB 2000); *Three Mountain Power* at 42. Since the NSR manual has not been incorporated in the Kentucky SIP, as long as the state conducts careful and detailed analysis of the

criteria identified in the regulatory definition of BACT, KYDAQ is not required to strictly adhere to the manual.

### 1. Sulfur Dioxide (SO<sub>2</sub>) BACT Limits and Low Sulfur Coal

Petitioner's Comment: Petitioner claims that the BACT determination for Unit 4 failed to consider lower sulfur coal as a method to reduce sulfur dioxide (SO<sub>2</sub>) emissions. EKPC and KYDAQ are required to determine whether lower pollution rates could be achieved by switching to a cleaner fuel. EKPC attempted to justify an SO<sub>2</sub> BACT limit higher than the limits set for similar facilities by relying on the fact that Unit 4 will use high sulfur coal, but its own analysis shows that using Powder River Basin (PRB) coal or low-sulfur eastern bituminous coal as the fuel for Unit 4 would reduce SO<sub>2</sub> emissions by 1,700 or more tons per year and would be cost effective.

EPA's Response: In reviewing Petitioner's request that the Administrator object to the permit because it does not include an accurate BACT limit for SO<sub>2</sub>, EPA reviewed the BACT determination provided by KYDAQ and EKPC. Without deciding the merits of Petitioner's claim regarding the cost effectiveness of the various coal options considered by for Unit 4, EPA has determined that EKPC and KYDAQ have not provided an adequate explanation for their determination that the design basis coal is the BACT fuel for Unit 4. In particular, EPA finds that KYDAQ and EKPC have failed to provide a complete justification for excluding low sulfur eastern bituminous coal as BACT for limiting SO<sub>2</sub> emissions from this project. Accordingly, the Administrator grants the petition on the narrow issue of the selection of SO<sub>2</sub> BACT, limits and directs KYDAQ and EKPC to provide a complete analysis to support the selection of the design coal as BACT.

EPA has traditionally utilized a 5-step, top-down process for determining whether BACT emission limits for each PSD-regulated pollutant considered in a permitting decision meet the statutory criteria: (1) identify all potentially applicable control options (2) eliminate technically infeasible control options; (3) rank remaining technologies by control effectiveness; (4) eliminate control options from the top down based on energy, environmental, and economic impacts; and (5) select the most effective option not eliminated as BACT. *See In re Prairie State Generating Co.*, 13 E.A.D. \_\_\_, PSD Appeal No. 05-05, slip op. at 14-18 (EAB Aug. 24, 2006) (summarizing and describing steps in the top-down BACT analysis). *Accord In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 42-43 n.3 (EAB 2001); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 129-31 (EAB 1999); and *In re Hawaii Electric Light Co.*, 8 E.A.D. 66, 84 (EAB 1998). In this case, EKPC and KYDAQ used this 5-step, top-down process to determine the BACT emission limits, including the SO<sub>2</sub> limit, contained in the permit for Spurlock Unit 4. *See* EKPC Supplemental BACT Analysis for Spurlock Unit 4 (January 12, 2006) at 2-5 (describing this process as its "BACT Methodology"); and KYDAQ Permit Statement of Basis (February 3, 2006) at 22 (explaining that BACT limits for Unit 4 were determined by using EKPC's BACT analysis).

In responding to Petitioner's previous comments regarding the use of lower sulfur coals in determining the SO<sub>2</sub> BACT for Unit 4, KYDAQ said it did not "concur that a limit restricting the coal sulfur content is appropriate or necessary for this type of unit, nor is the Division aware of any other permits for this type of facility that contain a limit in the percentage of sulfur that the fuel can contain." KYDAQ's Response to Comments (June 1, 2006) at 54; *see also* KYDAQ Permit Statement of Basis at 23-24 (describes the BACT limit for SO<sub>2</sub> without any discussion of coal choice or coal sulfur content). This response is insufficient because it does not provide any explanation as to why KYDAQ did not consider selection of a lower sulfur coal "appropriate or necessary" for achieving BACT at Unit 4 based on the applicable permitting criteria.<sup>11</sup> While permitting authorities have discretion in making the case-by-case technical assessments necessary to determine BACT for a specific source, in exercising that discretion, they must provide a reason for rejecting a specific control technology as BACT based on the applicable criteria in the Clean Air Act and its relevant implementing regulations. *See Indeck-Elwood*, 13 E.A.D. \_\_\_\_, PSD Appeal No. 03-04, slip op. at 29 (EAB Sept. 27, 2006) ("A permit issuer must, therefore, articulate with reasonable clarity the reasons for its conclusions and must adequately document its decision making.") and cases cited therein. Accordingly, in order to justify the SO<sub>2</sub> BACT selected for this project, KYDAQ needs to provide additional analysis and/or a justification for its determination that use of lower sulfur coal was not an achievable option for Spurlock Unit 4. *See Inter-Power of New York*, 5 E.A.D. 130, 145-49 (EAB 1994) (upholding PSD permit for a CFB boiler where petitioners claimed lower sulfur coal would have been used, but where the record showed that the permit's SO<sub>2</sub> limit was within the range of SO<sub>2</sub> limits of similar projects that had recently been issued PSD permits).

Given that KYDAQ's Permit Statement of Basis explains that BACT limits for Unit 4 were determined after considering the applicant's BACT analysis, *id.* at 22, EPA has also examined EKPC's SO<sub>2</sub> BACT analysis to determine if it provides an adequate basis for selection of the design basis coal as BACT, *see* EKPC Supplemental BACT Analysis for Spurlock Unit 4 (January 12, 2006) at 5-8. Upon complete examination, EPA finds that EKPC's analysis is also deficient because it does not explain (based on the BACT criteria) why one coal type – low sulfur eastern bituminous coal – was excluded as BACT for this project. Using the 5-step, top-down process for determining the SO<sub>2</sub> BACT emission limits, at step one, EKPC identified the use of three potential types of coal for use as fuel in Unit 4 and examined the potential for controlling SO<sub>2</sub> emissions: high-sulfur western Kentucky

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<sup>11</sup> EPA understands that permitting authorities have issued PSD permits for CFB boilers that contain SO<sub>2</sub> BACT emissions limits established by controlling the sulfur content of coal fuel used at the facility. *See, e.g., AES Puerto Rico*, 8 E.A.D. 324, \_\_\_\_ (near n3) (EAB 1999) (upholding issuance of a PSD permit for a CFB boiler that contained BACT limits on SO<sub>2</sub> emissions achieved through "a combination of three control strategies: 1) CFB boilers with limestone injection, 2) low sulfur coal (maximum sulfur content of 1.0%), and 3) an add-on dry scrubber").

coal (DB coal), PRB coal, and low sulfur eastern bituminous coal.<sup>12</sup> Supplemental BACT Analysis for Spurlock Unit 4 (January 12, 2006) at 6-7. From the analysis, it does not appear that EKPC eliminated any of these three coal options as technically infeasible at Step two. *See id.*

In accordance with Step three of the BACT analysis, EKPC provided information regarding the SO<sub>2</sub> potential for the each of three coal types: 0.8 for PRB coal, 1.23 for low sulfur eastern bituminous coal, and 9 for DB coal. *Id.* at 7. In Step four, EKPC provided an economic analysis of the SO<sub>2</sub> control achieved with each coal, including total, average, and incremental costs. In examining the control costs of the various coals considered, EKPC's analysis provides the following:

	Total Coal Cost (approx. \$)	Difference in Cost (approx. \$)	Average Control Cost (\$/ton SO <sub>2</sub> removed)	Incremental Control Cost (\$/ton SO <sub>2</sub> removed)
Design (DB) coal	30,662,842	baseline	283	baseline
PRB coal	76,650,000	45,987,158	8,033	23,733
Low sulfur E. Bit. coal	45,715,846	15,053,003	3,092	7,898

Supplemental BACT Analysis at 7-8.<sup>13</sup> *See also Inter-Power of New York*, 5 E.A.D. at 135 (explaining that BACT economic analysis usually involves an evaluation of two costs – “the total cost per ton of control for the pollutant” and “the comparative cost-effectiveness of various control options to determine their incremental cost-effectiveness”). In other words, EKPC determined that using PRB coal instead of DB coal would increase total fuel costs by approximately \$46 million and would cost \$23,733 more per ton of additional SO<sub>2</sub> control. EKPC then

<sup>12</sup> EKPC's analysis also includes relevant information for washed DB coal, but as will be explained in § 7c *infra*, coal washing is considered to be a supplemental SO<sub>2</sub> control option considered after, and in addition to, the selection of primary SO<sub>2</sub> controls, such as coal to be used in the boiler. Accordingly, EPA's review of the SO<sub>2</sub> BACT analysis with regard to coal choice is limited to these three different types of coal and excludes washed DB coal.

<sup>13</sup> EKPC has provided somewhat different cost figures in its response to the Title V petition. *See* Response to title V Petition at page 19. Since the response does not provide any information regarding the basis of the new figures and KDAQ's Supplemental BACT Analysis was before KDAQ when it issued the permit, EPA's review will focus on the information provided in KDAQ's Supplemental BACT Analysis.

eliminated PRB coal as “not economically viable” given total costs. Supplemental BACT Analysis at 7. After examining incremental costs, EKPC determined that the design basis coal was “the most economical for Unit 4,” and based on this assessment, EKPC then selected the design basis coal as BACT for SO<sub>2</sub> emissions. *Id.* at 8.

However, EKPC’s BACT selection in this instance is deficient because the analysis does not demonstrate that use of low sulfur eastern bituminous coal is not achievable for this source considering technical feasibility or economic, environmental, or energy impacts. *Indeck-Elwood*, slip op. at 77 (citing *Knauf Fiber Glass*, 8 E.A.D. 121, 130 (EAB 1999)). Since EKPC’s analysis shows that low sulfur eastern bituminous coal has a lower SO<sub>2</sub> potential than the DB coal (1.23 compared with 9), EKPC must provide a basis for excluding that option as a BACT and selecting a less stringent emission limit associated with the DB coal. EKPC’s Supplemental BACT analysis does not sufficiently address the economic, environmental, or energy impacts of using low sulfur eastern bituminous coal. *See id.* at 7-8. While EKPC determined that the design coal was “the most economical”, this does not demonstrate that use of low sulfur eastern bituminous coal is economically infeasible for this source. *See, e.g., Masonite Corp.*, 5 E.A.D. 551, 564 (EAB 1994) (Determining whether use of a technology is cost effective usually involves a comparison of the control option’s cost-effectiveness “with what other companies in the same industry have been required to pay in recent BACT determinations to remove a ton of the same pollutant. In most cases, a control option is determined to be economically achievable if its cost-effectiveness is within the range of costs being borne by other sources of the same type to control the pollutant.”) (citing *Inter-Power of New York*, 5 E.A.D. at 135).

Accordingly, the Administrator is granting this petition with respect to the issue of low sulfur coal and remanding the permit to KYDAQ and EKPC for further explanation and/or analysis regarding the choice of the design basis coal as BACT for SO<sub>2</sub> and, if necessary after such analysis, for adjustment of the SO<sub>2</sub> limit to appropriately reflect BACT. *See Indeck-Elwood*, slip op at 83 (remanding a specific BACT determination to the permitting authority after finding the record did not provide a sufficient explanation for the decision making process used to set the emission limit). In so doing, EPA is not concluding that the Unit 4 permit’s SO<sub>2</sub> limit does not represent BACT – only that the present permit record does not provide EPA (or the public) sufficient information to make a reasonable decision as to the adequacy of the BACT determination.

## **2. Sulfur Oxide (SO<sub>2</sub>) BACT Limit and Coal Washing**

Petitioner’s Comment: Petitioner claims that the SO<sub>2</sub> emission limit for Unit 4 is too high because the BACT determination failed to consider coal washing as a method to reduce SO<sub>2</sub> emissions. KYDAQ did not provide an adequate basis for concluding that coal washing was not an effective SO<sub>2</sub> reduction technique. The



permit also fails to recognize that coal washing must be considered for all coal types in the BACT determination, not just for the EKPC's preferred source of coal.

EPA's Response: Contrary to Petitioner's assertions, KYDAQ and EKPC did consider the feasibility of coal washing as a way to limit SO<sub>2</sub> emissions from this project. *See generally* EKPC Supplemental BACT Analysis at 8-9 and related tables at 7, 8; KYDAQ's Response to Comments at 54-56. KYDAQ determined that washed DB coal was not BACT because "coal washing is not uniformly effective in reducing sulfur in [the design basis] coal." KYDAQ's Response to Comments at 56. Such a determination is consistent with the EAB's determination that "a permitting authority must be allowed a certain degree of discretion to set the emissions limitation at a level that does not necessarily reflect the highest possible control efficiency, but will allow the permittee to achieve compliance consistently." *Masonite Corporation* at 551 and 560-561.

While Petitioner argues that KYDAQ's only support for its determination is a website, Petitioner does not provide any information showing that coal washing is a consistently effective mechanism for reducing sulfur in eastern coal or provide information showing that KYDAQ's analysis "was so flawed as to be clearly erroneous." *Inter-Power of New York*, 5 E.A.D. at 146. Moreover, in addition to the website, KYDAQ also based its coal washing determination on EKPC's BACT analysis. *See* Permit Statement of Basis at 22 (noting that all BACT determination relied, in part, on EKPC's BACT analysis). EKPC's analysis excluded coal washing as an effective add-on BACT mechanism based on adverse economic, environmental, and energy impacts. *See* Supplemental BACT Analysis at 8-9 (noting that coal washing cost \$11,706 per ton SO<sub>2</sub> removed, would produce slurry ponds, and would lower pollutant removal efficiencies in the CFB). Thus, based on the information provided by KYDAQ and EKPC and the lack of information to the contrary from Petitioner, EPA does not find that the decision to exclude coal washing as an additional control mechanism for limiting SO<sub>2</sub> emissions brings this permit out of compliance with the CAA, including the PSD permitting requirements. *See Prairie State Generating Co.*, slip op. at 53-55 (finding that petitioners had failed to demonstrate clear error in the decision to reject coal washing in the BACT analysis when the analysis showed that any benefits of coal washing were outweighed by its cost, energy, and environmental impacts).

Petitioner's assertion that KYDAQ and EKPC were required to consider the feasibility of coal washing for all three coal types considered, and not just the design basis coal, is also misplaced. Having already determined earlier in the SO<sub>2</sub> BACT analysis that the other coal types could be excluded, KYDAQ and EKPC proceeded to determine whether the additional mechanism of coal washing could be combined with the remaining BACT option – the design basis coal – to further reduce SO<sub>2</sub> emissions.<sup>14</sup> *See Prairie State Generating Co.*, slip op. at 51-52

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<sup>14</sup> While EPA acknowledges that the BACT determination with regard to coal selection is being remanded to KYDAQ as discussed above, this does not change the basic premise that coal washing is a supplemental control technology that can be considered after

(explaining why coal washing is an “additional” or “supplemental” control technology). Nothing in the PSD permitting requirements require that the possible emission reduction benefits of supplemental control technologies must be analyzed with regard to control options that have already been eliminated. Accordingly, Petitioner fails to demonstrate that the SO<sub>2</sub> limit contained in the permit for Unit 4 is not in compliance with the CAA. For these reasons, EPA denies the petition with respect to this issue.

### 3. Consideration of Integrated Gasification Combined Cycle (IGCC)

Petitioner’s Comment: Petitioner argues that “[t]he Administrator must object to the permit because it contains limits that do not represent BACT,” and explains that “[a] BACT analysis for a coal fired power plant must include consideration of Integrated Gasification Combined Cycle (“IGCC”) technology.” Petitioner emphasizes that “IGCC constitutes a cleaner production process and an innovative fuel combustion technique under the definition of BACT,” and that “IGCC is a different process and combustion technique, which achieves much lower emission rates than the [circulating fluidized bed] process proposed for Spurlock 4.” Petitioner argues that IGCC should be considered under the BACT analysis, and should not be considered to redefine the source, based on the definition of BACT under CAA section 169(3), the legislative history of that provision, and decisions of EPA’s Environmental Appeals Board (“EAB” or “Board”).

EPA’s Response: EPA disagrees with Petitioner’s conclusion. Petitioner has not sufficiently demonstrated to the Administrator that the permit limits, by not reflecting IGCC, do not represent BACT. As a result, Petitioner has not demonstrated that the permit fails to include applicable PSD requirements, and the petition is, therefore, denied with respect to this issue.

Petitioner made the same IGCC comment on the proposed permit as it now makes this petition. KYDAQ responded to the initial comment by stating: “IGCC would result in a redefinition of the basic design of the project and is not required under a BACT analysis ....” KYDAQ’s Response to Comments at 44.<sup>15</sup>

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selection of the primary BACT fuel. Accordingly, the Administrator notes that if KYDAQ were to choose a different coal type as BACT following remand, KYDAQ should consider in its BACT analysis whether washing the different coal should be an additional SO<sub>2</sub> control technology for Spurlock Unit 4.

<sup>15</sup> KYDAQ added that “review of IGCC could be performed under [CAA] section 165(a)(2),” which requires the permitting authority to provide an opportunity for interested persons to comment on “alternatives” to the source. KYDAQ determined that “the Division will not require the use of an IGCC design as an alternative to a [circulating fluidized bed] unit,” KYDAQ’s Response to Comments at 44. Petitioners have not challenged the adequacy of this latter determination; and in denying this petition with respect to the IGCC issue, I am not making any determination regarding the adequacy of

In repeating, in their petition, the comments made on the proposed permit, Petitioners have not demonstrated that KYDAQ erred in declining to analyze IGCC under BACT on grounds that IGCC would redefine the source. The Administrator and the EAB have long maintained a policy against utilizing the BACT requirement as a means to fundamentally redefine the basic design or scope of a proposed project. See e.g., *In re Knauf Fiber Glass*, 8 E.A.D. 121, 140 (EAD 1998); *In the Matter of: Pennsauken County, New Jersey, Resource Recovery Facility*, 2 E.A.D. 667, 673 (Adm'r 1988) ("*Pennsauken County*"). EPA has not required applicants proposing to construct coal-fired steam electric generating facilities to evaluate building natural gas-fired combustion turbines as part of a BACT analysis, even though a gas turbine may be inherently less polluting. *In re SEI Birchwood Inc*, 5 E.A.D. 25 (1994); *In the Matter of: Old Dominion Electric Cooperative Clover, Virginia*, 3 E.A.D. 779, 793 n. 38 (Adm'r 1992). Likewise, in *In re Hawaii Commercial & Sugar Co.*, the EAB found no error by the permitting authority in rejecting the petitioner's argument that the BACT analysis for a coal-fired steam electric generator should include the option of constructing an oil-fired combustion turbine. 4 E.A.D. 95, 99-100 (EAB 1992).

EPA's policy reflects the Agency's longstanding judgment that limits should exist on the degree to which permitting authorities can dictate the design and scope of a proposed facility through the BACT analysis. This policy is based on a reasonable interpretation of sections 165 and 169(3) of the CAA, which the EAB recently reiterated and explained in *In re Prairie State Generating Company*, PSD Appeal No. 05-05 (Aug. 24, 2006). In the *Prairie State* case, involving a permit for an coal-fired electric generating station that was co-located and co-permitted with a new coal mine supplying fuel for the facility, the Board determined that it was consistent with EPA's historic policy and the CAA for the permitting authority in this case to decline to conduct a detailed BACT review of the option of using lower-sulfur coal from another location. Based on various provisions of the CAA, including language that requires the "proposed facility" to be "subject to" BACT, the Board concluded that "the statute contemplates that the permit issuer looks to how the permit applicant defines the proposed facility's purpose or basic design" as part of Step 1 of the top-down BACT analysis. *Prairie State*, slip op. at 28-29. The Board further explained that "the permit issuer must be mindful that BACT, in most cases, should not be applied to regulate the applicant's objective or purpose for the proposed facility." *Prairie State*, slip op. at 30. The Seventh Circuit recently affirmed the EAB's *Prairie State* decision, including the Board's interpretation of the interplay between determining what redefines a source and the required BACT analysis. See generally *Sierra Club v. EPA*, slip op. (7th Cir. Aug. 24, 2007).

As discussed by the Board in the *Prairie State* opinion, affirmed by the Seventh Circuit, and explained more fully below, EPA's policy against redefining

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KYDAQ's alternatives analysis. Cf. *Sierra Club v. EPA*, slip op. at 3 (7th Cir. Aug. 24, 2007) (finding that only the BACT requirements were at issue because the petitioners had not invoked the alternatives provision).

the proposed source through the BACT analysis is supported by a permissible and reasonable interpretation of the Clean Air Act. The language in sections 165 and 169 of the CAA distinguishes between the consideration of alternatives to a proposed source on the one hand, and permitting and selection of BACT for the proposed source on the other. Alternatives to a proposed source are evaluated through the CAA section 165(a)(2) public hearing process, which requires that, before a permitting authority may issue a permit, interested persons have an opportunity to “submit written or oral presentations on the air quality impact of such source, *alternatives thereto*, control technology requirements, and other appropriate considerations.” 42 U.S.C. § 7475(a)(2) (emphasis added). By listing “alternatives” and “control technology requirements” separately in section 165(a)(2), Congress distinguished “alternatives” to the proposed source that would wholly replace the proposed facility with a different type of facility, from the kinds of “production processes and available methods, systems and techniques” that are potentially applicable to a particular type of facility and should be considered in the BACT review. *See* 42 U.S.C. § 7479(3).<sup>16</sup>

In contrast to the requirements of section 165(a)(2), other parts of the PSD permitting process, including the requirement to apply BACT, focus on, and are generally confined by, the project as proposed by the applicant. Sections 165(a)(1) and 165(a)(4) of the CAA provide that no facility may be constructed unless “a permit has been issued for *such proposed facility* in accordance with this part” and “the *proposed facility* is *subject to* best available control technology for each pollutant subject to regulation under the Act.” 42 U.S.C. § 7475(a)(1) and (a)(4) (emphasis added). The following definition of BACT in section 169(3) of the Act also makes clear that the BACT review is based on the proposed project, as opposed to something fundamentally different:

an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a *case-by-case basis*, taking into account energy, environmental, and economic impacts and other costs determines is achievable for *such facility* through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of such pollutant.

42 U.S.C. § 7479(3) (emphasis added). The phrases “proposed facility” and “such facility” in section 165(a)(4) and 169(3) refer to the specific facility proposed by the applicant, which has certain inherent design characteristics. The Act also requires BACT to be determined “on a case-by-case basis.” The case-specific nature of the BACT analysis indicates that the particular characteristics of each facility are an important aspect of the BACT determination. Thus, the Act requires

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<sup>16</sup> As noted above, KYDAQ considered, but rejected, IGCC as an “alternative[.]” and Petitioner has not challenged that determination.

that permitting authorities determine BACT for each facility individually, considering the unique characteristics and design of each facility.

However, as the Petitioner has pointed out, the statutory definition of BACT also requires permitting authorities in selecting BACT to consider “application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques.” 42 U.S.C. § 7479(3). EPA has interpreted this phrase to require that permitting authorities evaluate both add-on pollution control technologies and lower polluting process in the BACT review. *Prairie State* at 33.

Considering these provisions together, the Act requires that the permitting authority conduct the BACT analysis on a “case-by-case” basis on the “proposed facility” while concurrently considering the “application of production processes and available methods, systems and techniques” that could alter the proposed facility. The statute does not provide clear direction on how the permitting authority is to reconcile these concepts and simultaneously consider the particulars of the facility proposed by the applicant while also assessing the use of methods or technology that could modify those particulars. Where a statute is ambiguous and Congress has not spoken to the precise issue, an administrative agency may formulate a policy to resolve the issue, provided that the policy is based on a permissible construction of the statute. *Chevron v. Natural Resources Defense Council*, 104 S.Ct. 2778, 2782 (1984). In this instance, sections 165 and 169(3) of the CAA are permissibly construed to authorize EPA and permitting authorities to establish some level of balance between the case-by-case nature of a BACT determination and the need to consider available processes, methods, systems, and techniques to reduce emissions. EPA’s policy against redefining a source as part of the BACT analysis, which KYDAQ implemented for this permit, reasonably harmonizes the competing BACT obligations by requiring the permitting authority to consider potentially applicable processes, methods, systems, or techniques that may reduce pollution from the type of source proposed, provided such processes or techniques do not fundamentally redefine the basic design or scope of the facility proposed by the permit applicant.

EPA does not read the legislative history cited by the Petitioner to require a detailed evaluation of the IGCC technology in the BACT analysis for every proposed facility that generates electricity from coal. Petitioner points out that when Congress enacted the BACT definition in 1977, Senator Huddleston intended for the phrase “innovative fuel combustion techniques” to encompass “gasification” or “low Btu gasification,”<sup>17</sup> but this does not necessarily require EPA or other permitting authorities to identify the IGCC option as a candidate for further analysis at Step 1 of a top-down BACT review. The “innovative fuel combustion techniques” phrase appears in the BACT definition among a list of examples of things included in the phrase “production processes and available methods, systems, and techniques.” Thus, the “innovative fuel combustion” language, like the phrase

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<sup>17</sup> 123 Cong. Rec. S9434-35 (June 10, 1977) (debate on P.L. 95-95).

it modifies in the definition of BACT, is limited by other language discussed above that requires BACT to be applied to each proposed facility and determined on a case-by-case basis. Thus, even assuming that coal gasification was in all respects an innovative fuel combustion technique for producing electricity from coal, EPA does not interpret the CAA to require an "innovative fuel combustion technique" to be subject to a detailed BACT review when application of such a technique would re-design the proposed source to the point that it becomes an alternative type of facility, which, as discussed below, EPA believes would be the case if the IGCC technology were applied to Spurlock's Unit 4.

Furthermore, it is not clear from the terms of his statement that Senator Huddleston himself intended to require mandatory review of coal gasification in every case where such an option was not proposed by the permit applicant. Senator Huddleston said the purpose of the amendment was to leave no doubt that "all actions taken by the fuel user are to be taken into account." This phrase suggests the Senator wanted to make sure that, when a fuel user was proposing an innovative fuel combustion technique, such as coal gasification, that such actions by the fuel user would be taken into account and credited in the determination of BACT for the proposed facility. Thus, the Senator's statement could be read to express an intent similar to that expressed in a subsequent Congress when adding the phrase "clean fuels" to the definition of BACT in the 1990 amendments of the Clean Air Act. Pub. Law No. 101-549, § 403(d), 104 Stat. at 2631 (1990). At the time "clean fuels" was added to the list that includes "innovative fuel combustion techniques," the relevant Senate committee report stated the following in consecutive paragraphs:

The Administrator may consider the use of clean fuels to meet BACT requirements if a permit applicant proposes to meet such requirements using clean fuel .... In no case is the Administrator compelled to require mandatory use of clean fuels by a permit applicant.

S. Rep. 101-228, at 338 (describing section 402(d) of S. 1630). Based on this legislative history, EPA does not interpret the list of examples that appear in the BACT definition after the phrase "production processes, methods, systems, or techniques" to require mandatory evaluation of each of those options at advanced stages of the BACT analysis, regardless of the degree to which such an option would redefine the type of facility proposed by the permit applicant.

Although EPA reads the Act to preclude redefining the source, EPA does not interpret the CAA to obligate a PSD permitting authority to accept all elements of a proposed project when determining BACT. To the contrary, EPA recognizes that the Act calls for an evaluation of the "application of production processes and available methods, systems, and techniques." 42 U.S.C. § 7479(3).

As the Board observed in *Prairie State*, EPA's policy against redefining the source is only relevant when considering lower polluting processes and would not

permit a reviewing authority to rule out “add-on controls” at Step 1 of the BACT analysis. Slip op. at 33. Further, although EPA does not require a source to consider a totally different design, some design changes to the proposed source are within the scope of the BACT review. See *Knauf Fiber Glass*, 8 E.A.D. 121, 136. As the Board observed in the *Prairie State* case, the central issue in situations involving a lower polluting process concerns “the proper demarcation between those aspects of a proposed facility that are subject to modification through the application of BACT and those that are not.” Slip Op at 26. The Board observed that one of the permit issuer’s tasks at Step 1 of the BACT analysis is to “discern which design elements are inherent to [the applicant’s] purpose, articulated for reasons independent of air quality permitting, and which design elements may be changed to achieve pollutant emissions reductions without disrupting the applicant’s basic business purpose for the proposed facility.” *Prairie State*, slip op. at 30.

Since this line can be difficult to draw in each case, the Administrator and Environmental Appeals Board have generally recognized that the decision on whether to include a lower polluting process in the list of potentially-applicable control options compiled at Step 1 of the top-down BACT analysis is a matter within the discretion of the PSD permitting authority. *Knauf*, 8 E.A.D. at 136; *Old Dominion*, 3 E.A.D. at 793; *Hawaiian Commercial*, 4 E.A.D. at 100 and n.9. The Administrator and the EAB have usually respected the decisions of the permitting authority and only remanded permits in cases where it was clear that the permitting authority abused its discretion by excluding a particular option from consideration in the BACT review. *Knauf Fiber Glass*, 8 E.A.D. 121, 140; See e.g., *In the Matter of: Hibbing Taconite Company*, 2 E.A.D. 838, 843 (Adm’r 1989) (“*Hibbing*”). The Seventh Circuit affirmed this view in upholding the EAB’s *Prairie State* decision, emphasizing the discretion given the permitting authority in making the technical judgment as to “where control technology ends and a redesign of the ‘proposed facility’ begins.” *Sierra Club v. EPA*, slip op. at 5.

Petitioners insist that in *Pennsauken County*, the EAB made clear that the “‘redefining the source’ policy only prevents substituting a type of industrial category for another,” and does not prevent substituting one type of source for another type of source in the same source category. Petitioners argue that the EAB affirmed this view in *Hibbing*. EPA does not read those two decisions in that manner. In particular, in *Hibbing*, the Board considered whether the option in question would “require any fundamental change to Hibbing’s product, purpose, or equipment.” *Hibbing* at 843 n. 12. Thus, in *Hibbing*, the EAB specifically identified a “fundamental change to ... equipment” as a type of redefinition of the source.

With respect to the project proposed by Spurlock, Petitioner’s have not demonstrated that the KYDAQ erred in concluding that the application of the IGCC process to the facility would fundamentally change the nature of the proposed major source because it would fundamentally change the basic design of the equipment

that EKPC proposes to install at Spurlock. Specifically, EKPC has proposed a facility that fires coal in a fluidized mixture with limestone and inert materials, in a boiler to generate steam to drive an electric turbine. An IGCC facility uses a chemical process to first convert coal into a synthetic gas and to fire that gas in a combined cycle turbine. "Final Report, Environmental Footprints and Costs of Coal-Based Integrated Gasification Combined Cycle and Pulverized Coal Technologies," EPA-430/R-06/006, July 2006. The combined cycle generation power block of an IGCC process employs the same turbine and heat recovery technology that is used to generate electricity with natural gas at other electric generation facilities. Thus, this portion of the IGCC process is very similar to existing power generation designs that EPA has agreed would redefine the basic design of the source when an applicant proposed to construct a pulverized coal-fired boiler. *In re SEI Birchwood Inc*, 5 E.A.D. 25 (1994); *Old Dominion Electric Cooperative Clover*, 3 E.A.D. 779. Furthermore, the core process of gasification at an IGCC facility is fundamentally different than a boiler. Coal gasification is more akin to technology employed in the refinery and chemical manufacturing industries than technologies generally in use in power generation (i.e. a controlled chemical reaction versus a true combustion process). Use of coal gasification technology would necessitate different types of expertise on the part of the applicant and employees to produce the desired product (electricity). Thus, these fundamental differences in equipment design are sufficient to conclude that the IGCC process would redefine the proposed source.

EPA acknowledges that in the *Prairie State* case, the EAB recognized that IGCC technology could be listed as a potentially applicable option at Step 1 of the BACT analysis, as Illinois EPA had elected to do in that case. However, the Board's opinion in *Prairie State* did not interpret the CAA to require IGCC to be listed as a potentially applicable control option at Step 1 for every permit application involving a coal-fired steam electric generating unit. That is, the Board did not conclude that IGCC, or any other option involving such extensive design changes, had to be listed as a potentially applicable option at Step 1 in each case or find that it would be an abuse of a permitting authority's discretion to decline to list IGCC at Step 1 of the BACT analysis for the type of facility proposed by Spurlock. The Board continued to recognize that the decision of where to draw the line between BACT options listed at Step 1 and alternatives to the proposed source is ultimately a matter within the discretion of the permitting authority. *Prairie State* slip op. at 29 n. 22.

Accordingly, I believe that the KYDAQ properly exercised its discretion in determining not to consider IGCC in the BACT analysis for Spurlock Unit 4, and Petitioner has not demonstrated that the title V permit fails to contain applicable requirements as a result. Accordingly, I deny the petition with respect to this issue.



#### 4. Visible Emission Standard

Petitioner's Comment: The definition of BACT contained in the Kentucky SIP requires that a visible emission standard be included in each BACT limit for pollutants constituting visible emissions (i.e. PM/PM<sub>10</sub> and SAM). Although a BACT limit for PM, PM<sub>10</sub> or SAM typically includes an emissions rate limit, the Kentucky SIP requires BACT limits to include a visible emission standard.

EPA Response: In responding to Petitioner's claim concerning opacity for Unit 3, EPA expressed that BACT does not require an opacity limit. *See discussion* Section E.1., *supra*. Pursuant to 401 KAR 51:001(25), BACT is defined as "an emissions limitation, including a visible emission, based on the maximum degree of reduction for each regulated NSR pollutant that will be emitted from a proposed major stationary source or major modification that ...." Petitioner asserts that the phrase "including a visible emission standard" requires a visible emission standard in each BACT limit for pollutants constituting visible emissions. Based on EPA's interpretation of similar regulatory language contained in 40 C.F.R. § 52.21(b)(12), it was reasonable for KDAQ to conclude that visible emissions may be part of a BACT emissions limit but are not a required element of BACT. This position is consistent with KYDAQ's Response to Comments at page 46, which states in part ... "opacity may be an indicator of particulate matter, fumes, gases or vapor, but is not an independent entity to be regulated. Opacity is the property for the absorption of light, an appropriate indicator for a variety of air pollution concerns, but not a regulated NSR pollutant."<sup>18</sup> Notwithstanding Petitioner's claim, the permit does contain an opacity limit of 20 percent. Further, PM/PM<sub>10</sub> will also be monitored by PM CEMS which will provide a continuous method for ensuring compliance with the particulate emissions standard. For these stated reasons, EPA denies the petition with respect to this issue.

#### 5. BACT Limit for Fine Particulate Matter (PM<sub>2.5</sub>)

Petitioner's Comment: The permit must include a BACT limit for PM<sub>2.5</sub> emissions from Unit 4 because PM<sub>2.5</sub> is a regulated NSR pollutant. Further, EPA established a "national ambient air quality standard" (NAAQS) for PM<sub>2.5</sub>, and the Kentucky SIP requires a BACT limit "for each regulated NSR pollutant for which the source has the potential to emit in significant amounts." 401 KAR 51:017.

EPA's Response: While EPA acknowledges that PM<sub>2.5</sub> is a regulated NSR pollutant, at this time EPA has not yet implemented NSR regulations for PM<sub>2.5</sub> NAAQS. It is well established that EPA has proposed the interim use of PM<sub>10</sub> as a

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<sup>18</sup> *See also* Illinois Environmental Protection Agency Bureau of Air, Responsiveness Summary for Public Questions and Comments on the Construction Permit Application from Springfield City Water, Light and Power for Proposed Dallman Unit 4 at 39 (stating that "since opacity is not a pollutant, there is not a statutory obligation to set an opacity limit").

surrogate for PM<sub>2.5</sub> until NSR rules have been implemented. EPA has represented that:

In view of the significant technical difficulties that now exist with respect to PM<sub>2.5</sub> monitoring, emissions, estimation, and modeling, EPA believes that PM<sub>10</sub> may properly be used as a surrogate for PM<sub>2.5</sub> in meeting NSR requirements until these difficulties are resolved.

When the technical difficulties are resolved, EPA will amend the PSD regulations under 40 C.F.R. §§ 51.166 and 52.21 to establish a PM<sub>2.5</sub> significant emissions rate and EPA will also promulgate other appropriate regulatory measures pertinent to PM<sub>2.5</sub>, and its precursors.

Memorandum from John Seitz, Office of Air Quality Planning and Standards, "Interim Implementation of New Source Review Requirements for PM<sub>2.5</sub>" (October 21, 1997).

This position was recently reaffirmed in specific guidance to the states:

Using the surrogate PM<sub>2.5</sub> nonattainment major NSR program, States should assume that a major stationary source's PM<sub>10</sub> emissions represent PM<sub>2.5</sub> emissions and regulate these emissions using either Appendix S or the States' SIP-approved nonattainment major NSR program.<sup>19</sup>

Memorandum from Stephen Page, Office of Air Quality and Planning and Standards (April 5, 2005). Thus, under the circumstances presented here, it was clearly appropriate for KYDAQ to use PM<sub>10</sub> as a surrogate for PM<sub>2.5</sub>. For these reasons, EPA denies the petition with respect to this issue.

## 6. PM Emissions from Unit 4 Cooling Tower

Petitioner's Comment: The source was required to consider as BACT for PM the use of a less polluting process, i.e., an air cooled condenser (ACC). KYDAQ unlawfully restricted its BACT analysis to the cooling design proposed by the facility.

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<sup>19</sup> The terms of 40 C.F.R. § 52.24(k), Appendix S of Part 51 provide provisions for a transitional nonattainment major NSR program until EPA approves a State's Part D major NSR program into the SIP.

EPA's Response: EPA concurs with the position taken by KYDAQ regarding the appropriateness of the selected BACT for PM emissions from the cooling tower for Unit 4. In responding to the Petitioner, KYDAQ stated:

Given that EKPC has chosen to build a facility employing a cooling tower as part of the process, a drift eliminator with a maximum drift rate of 0.0005 percent as included in the permit is BACT.

KYDAQ's Response to Comments at 49.

Petitioner asserts that the use of an ACC would be more appropriate because it is a less polluting process. However, Petitioner has failed to demonstrate that ACC technology is feasible at this source. BACT as defined by the CAA and Kentucky regulations allow for the use of a design standard rather than an emissions standard when technological limitations make imposition of an emission standard infeasible. As previously discussed, this interpretation has been confirmed by the Supreme Court and in numerous EAB decisions that took into consideration geographical differences and other constraints in determining that a given technology was not feasible for a particular source. *See Alaska Dept. of Environmental Conservation*, 540 U.S. 461, 488 (2004); *In re Cardinal FG, Co.*, PSD Appeal No. 04-04 slip op. at 11; and *In re Three Mountain Power*, 10 EAD 39 (EAB 2001). Such considerations are appropriate here, because the ACC technology advocated by the Petitioner is typically utilized in drier climate, particularly where the water supply is limited. In more humid climates, the technology is less effective and not as economically viable where water is less expensive. For these reasons, ACC is typically not considered a feasible technology for sources located in the southeast region of the United States, such as the Spurlock Station. *See Masonite Corp*, 5 EAD at 560 (noting that the permit issuer must have flexibility where "the technology itself or its application to the type of facility in question may be relatively unproven").

EPA previously determined that ACC was not the best technology available in its Clean Water Act § 316(b) rulemaking. 66 Fed. Reg. 65256, 65282 (Dec. 18, 2001). EPA estimated that the energy penalty of an ACC plant in a hot environment at peak summer conditions could be as much as 19.4 percent. Further, the cost of ACC is more than three times the cost of wet cooling after considering the costs for construction and operating costs. In light of the foregoing information, it is EPA's position that KYDAQ's BACT determination is reasonable for PM emissions from the cooling tower for Unit 4. For these reasons, EPA denies the petition with respect to this issue.

#### **7. Monitoring and Reporting of PM Emissions from the Cooling Tower**

Petitioner's Comments: Utilizing 0.0005 percent drift eliminators is not BACT for PM and it is not an enforceable emission limit. The permit must contain a BACT limit for PM/PM<sub>10</sub>. PM/PM<sub>10</sub> emissions result when drift from a cooling

tower evaporates and leaves mineral and other solids as suspended particulate matter in the air. An effective BACT limit must regulate all these factors or directly limit PM/PM<sub>10</sub>. The permit does not require a correlation between these factors and PM/PM<sub>10</sub>. Additionally, the permit requires only a one-time drift rate test rather than periodic tests. This is not sufficient to demonstrate continuous compliance with applicable limits.

EPA's Response: Contrary to Petitioner's assertion, the drift elimination rate limit of 0.0005 percent as BACT for the Unit 4 cooling tower is consistent with BACT determinations in several other recent coal-fired power plant permits. Recent examples of permits for coal-fired power plants with similar BACT limits for cooling towers include Longleaf Energy pulverized coal project in Georgia (0.001 percent); the Longview Energy pulverized coal project in West Virginia (0.002 percent); and the Prairie State Generation pulverized coal project in Illinois (0.0005 percent).

Further, Petitioner claims that the Spurlock permit provides insufficient monitoring provisions for emissions from the cooling tower is unsubstantiated. Specifically, the permit requires monthly monitoring of total dissolved solids (TDS) content of the circulating water and requires maintenance of records of the maximum pumping capacity and TDS content. Permit, Emissions Unit 23; Sections B.4 and 5. In addition, the permit requires the source to perform an initial performance test to assess the efficiency of the drift eliminators, as well as maintain the drift eliminators in accordance with the manufacturer's specifications. In making its claims, Petitioner provides no information to support the idea that the permit contains deficient monitoring for PM/PM<sub>10</sub> and that periodic drift tests should be required. EPA finds that the permit contains sufficient monitoring, recordkeeping and performance test requirements for enforceability of the requirement to install a 0.0005 percent drift eliminator as a method of limiting PM emissions.

Finally, Petitioner's recommendation that a limit be placed on mineral and other solids that are suspended as particulate matter in the drift from the cooling tower is highly impractical, since EKPC has no direct control over the dissolved solids concentration in the Unit 4 emissions. Given the low drift elimination rate limit of 0.0005 percent established as BACT for the Unit 4 cooling tower, EPA does not believe that additional limits for PM<sub>10</sub> emissions are necessary or practical.<sup>20</sup> For these reasons, EPA denies the petition with respect to this issue.

## **8. BACT Limit for Mercury and Beryllium**

Petitioner's Comment: The Kentucky SIP, existing at the time the permit was issued, requires BACT limits for facilities that emit mercury in a "significant" amount. Although the Kentucky administrative regulations have recently been

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<sup>20</sup> In light of this conclusion, Petitioner has not demonstrated that any failure to respond to comments on this issue resulted in, or may have resulted in, a flaw in the permit.

changed with respect to the level of mercury and beryllium emissions considered significant, the change has not yet been approved by EPA. Therefore, the existing Kentucky SIP controls and a BACT limit for mercury and beryllium is required. Additionally, because mercury is subject to a new source performance standard, a BACT limit for mercury must be established.

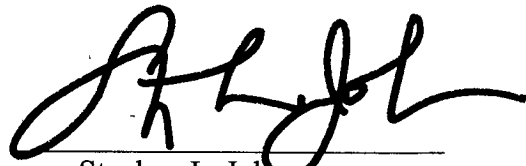
EPA's Comment: EPA has since approved Kentucky's revised SIP that changes the amount of mercury emissions that are considered "significant." 71 Fed. Reg. 38,990 (July 11, 2006). Since the mercury level referenced by Petitioner is obsolete and no longer applicable to the level of emissions generated at the Spurlock Station, this issue is moot. See *Glynn Environmental Coalition, Inc. v. EPA*, Docket No. 05-10375-GG (11 Cir. 2006) (dismissing petition as moot where sole issue was whether permit contained sufficient conditions to assure compliance with a rule that had since been removed from the Georgia SIP).

Petitioner also asserts that a BACT limit for mercury is required by the CAA because it is a regulated NSR pollutant under 401 KAR 51:001, which includes pollutants that are subject to any standard promulgated under 42 U.S.C. § 7411. However, CAA § 112(b), 42 U.S.C. § 7412(b) specifies that "the provisions of Part C (Prevention of Significant Deterioration) shall not apply to pollutants listed under this section." Mercury and beryllium compounds are listed in Section 112(b)(1) of the CAA. The CAA provides a note to Section 112(b)(1) explaining that "for all listings above which contain the word 'compound' ... the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substances that contains the named chemical ... as part of that chemical infrastructure." See also KYDAQ's Response to Comment at 73. Consequently, since both mercury and beryllium are listed HAPs regulated under Section 112, the PSD program requirements do not apply to these emissions. See *Newmont*, slip op. at 75-77 (concurring with Nevada Department of Environment that PSD provisions do not apply to mercury). For these reasons, EPA denies the petition with respect to this issue.

## V. CONCLUSION

For the reasons set forth above, and pursuant to section 505(b)(2) of the Clean Air Act, I partially deny and partially grant the petition from the Sierra Club requesting that the Administrator object to the issuance of the title V permit for the Spurlock Station owned and operated by East Kentucky Power Cooperative, Inc.

Dated:           AUG 30 2007          



Stephen L. Johnson  
Administrator