BEFORE THE ADMINISTRATOR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of the Proposed Revised Operating Permit for the East Kentucky Power Cooperative, Inc. Hugh L. Spurlock Generating Station in Maysville, Kentucky.

Source I.D. No. 21-161-00009

Permit No. V-06-007

Proposed by the Kentucky Environmental Protection Cabinet Department for Environmental Protection Division for Air Quality on June 12, 2006.

PETITION REQUESTING THAT THE ADMINISTRATOR OBJECT TO ISSUANCE OF THE PROPOSED REVISED TITLE V OPERATING PERMIT FOR THE HUGH L. SPURLOCK GENERATING STATION IN MAYSVILLE, KENTUCKY.

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Pursuant to Clean Air Act § 505(b)(2) and 40 CFR § 70.8(d), the Sierra Club hereby petitions the Administrator ("the Administrator") of the United States Environmental Protection Agency ("U.S. EPA") to object to proposed revised Title V Operating Permit for the Hugh L. Spurlock Generating Station in Maysville, Kentucky ("Permit"). A copy of the Permit is attached as Exhibit A. The Permit was proposed to U.S. EPA by the Kentucky Department for Environmental Protection Division for Air Quality (hereinafter "DAQ") more than 45 days ago. Sierra Club provided comments to the DAQ on the draft permit. A true and accurate copy of Sierra Club's written comments is attached at Exhibit B. DAQ responded to comments and posted its responses on the internet, but never provided a copy of its responses to Sierra Club. DAQ's response to comments is attached as Ex. C.

This petition is filed within sixty days following the end of U.S. EPA's 45-day review period as required by Clean Air Act ("CAA") § 505(b)(2). The Administrator must grant or deny this petition within sixty days after it is filed. If the U.S. EPA Administrator determines that the Permit does not comply with the requirements of the CAA or any "applicable requirement," he must object to issuance of the permit. 42 U.S.C. § 7661b(b); 40 C.F.R. § 70.8(c)(1) ("The [U.S. EPA] Administrator will object to the issuance of any permit determined by the Administrator not to be in compliance with applicable requirements or requirements of this part."). "Applicable requirements" include, *inter alia*, any provision of the Kentucky State Implementation Plan ("SIP"), including Prevention of Significant Deterioration ("PSD") requirements, any term or condition of any preconstruction permit, any standard or requirement under Clean Air Act sections 111, 112, 114(a)(3), or 504, acid rain program requirements. 40 C.F.R. § 70.2. "The Title V operating permits program is a vehicle for ensuring that existing air quality control requirements are appropriately applied to facility emission units in a single document... Such applicable requirements include the requirement to obtain preconstruction permits that comply with applicable new source review requirements." *In re Monroe Electric Generating Plant*, Petition No. 6-99-2 at p. 2 (EPA Adm'r 1999). Therefore, the Administrator must look at whether an emission unit has gone through

the proper New Source Review or PSD permitting process and, therefore, whether accurate "applicable requirements," including accurate best achievable control technology limits, are incorporated into the Title V permit. *In re Chevron Products Co., Richmond, California*, Petition No. IX-2004-08 at pp. 11-12 and n.13 (EPA Adm'r 2005). Therefore, the Administrator must object to the Permit because the Permit fails to comply with all applicable requirements, including SIP requirements and PSD permitting requirements. 42 U.S.C. § 7661d(b); 40 C.F.R. § 70.8(d); *New York Public Interest Research Group v. Whitman*, 321 F.3d 316, 333 n.11 (2nd Cir. 2002).

1. The Permit Illegally Limits Evidence That Can Be Used To Demonstrate Noncompliance with Particulate Matter and Visible Emission Limits for Unit 1.

The Permit limits particulate matter ("PM") emissions from Unit 1 to 0.14 lb/MMbtu and visible emissions to 20% opacity, with the exception of one six-minute period of 40% opacity during startup, cleaning or soot blowing. *See* Permit, Ex. A, p. 2 § 2. The Permit requires the source to conduct a stack test to determine a correlation between PM and opacity. Id. § 3(a). Presumably, this correlation will be enforceable--such that a violation of the opacity range will equate to a violation of the PM limit. *See In the Matter of Midwest Generation, LLC, Waukegan Generation Station*, Order Responding to Petitioner's Request That the Administrator Object to Issuance of a State Operating Permit at p. 20 (EPA Adm'r Sept. 22, 2005); *see also In Re Port Hudson Operation Georgia Pacific*, Petition No. 6-03-01, at pp. 37-40 (EPA Adm'r May 9, 2003) ("Georgia Pacific"); *In Re Doe Run Company Buick Mill and Mine*, Petition No. VII-1999-001, at pages 24-25 (EPA Adm'r July 31, 2002) ("Doe Run"); *In the Matter of Dunkirk Power LLC*, Order Objecting to Proposed Operating Permit No. II-2002-02 at 20 (EPA Adm'r July 31, 2003) ("Once the operating ranges have been established for the ESP operating parameters [based on emission stack tests], operating the ESP outside of any of these ranges would constitute a violation of the title V permit."). Prior decisions by the Administrator require such parametric monitoring to be enforceable. *Id.* However, although the

credible evidence rule and federal caselaw state otherwise, the Permit the owners and operators of the Spurlock plant may read the permit as limiting the evidence that can be used to establish a violation to the results of a U.S. EPA Method 9 test.

Reliance on Method 9 as the sole method for demonstrating non-compliance fails to ensure continuous compliance with the underlying permit limit as required by 40 C.F.R. § 70.6(a)(3)(i)(B). Method 9 observations are inherently not representative of continuous compliance because a Method 9 test must be made by an individual certified by the state, who has access to the premises, and only during daylight hours. *Sierra Club v. Public Service Co. of Colorado, Inc.*, 894 F.Supp. 1455, 1460 (D.Colo. 1995) (hereinafter "*PSC CO*"). Moreover, since a source will likely know when a Method 9 test is being conducted, it can take steps to achieve compliance which are not representative of normal operations. *Id.*

> An entity which has notice when an observation is to occur will be motivated to meet the compliance standard at that time. But continuous compliance, not contrived compliance is the goal here. In this regard the United States General Accounting Office in its Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives, stated 'it is fair to assume that compliance data being reported by States do not indicate what is happening at a facility on a day-to-day basis, but rather whether the source has been determined to be in compliance at an announced inspection after it has had the opportunity to optimize the performance of its control equipment. Thus, it indicates whether the source is capable of being in compliance rather than whether it is in compliance in its day-to-day operations.

Id. at 1459-60; *see also Credible Evidence Revisions*, 62 Fed. Reg. 8313, 8315 (Feb. 24, 1997).

Sierra Club's comments on the draft permit stated:

> [T]he Division should clarify that the monitoring requirement in Draft Permit § B.4.a., page 2—requiring EKPC to conduct a Method 9 test or accept the readout from the COMS— is a requirement of the CAM rule to ensure immediate correction of excess emissions. It is not a limit on the type of evidence that can be used to enforce the underlying limit. For example, any readout from the COMS

> showing a violation of the visible emission limit can be used to enforce the permit, regardless of whether the owner conducts an additional Method 9 test or not. Moreover, COM results are more accurate than Method 9 and Method 9 testing should not be used instead of COM data to determine compliance.

See Sierra Club Comments, attached as Ex. B, at p. 4. However DAQ responded that "This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits." *See* DAQ Response to Comments, attached as Exhibit C, at p. 24. DAQ reasoned that Kentucky has not adopted all of the U.S. EPA's Credible Evidence Rule into the Kentucky SIP, and specifically has not adopted 40 C.F.R. § 51.212. *Id.* Thus, DAQ concludes, "401 KAR 50:055 Section 2(3) specifies that compliance with opacity standards shall be determined by Method 9, except as may be provided for by administrative regulation for a specific category of sources, and that the results of continuous monitoring by transmissometer which indicate that the opacity at the time of visual observations were made was not in excess of the standard are probative but not conclusive evidence." *Id.*

There is nothing in the Clean Air Act that requires the use of one method of proving violations. *PSC CO*, 894 F.Supp. at 1461. DAQ focuses on the fact that it has not completely incorporated the U.S. EPA's Credible Evidence Rule into the Kentucky SIP, as if that fact is controlling. However, the Credible Evidence Rule did not change the existing law. Instead, it only clarified what was true before: any evidence can be used to demonstrate noncompliance. 62 Fed. Reg. at 8316 ("Section 51.212(c) is revised to clarify that the inclusion in a state implementation plan (SIP) of enforceable test methods for SIP emission limits does not preclude enforcement based on other credible evidence or information..."), 8319 ("Under today's rule, the legal burdens regarding the establishment of violation or compliance in an enforcement action are not changed."). The facts in *PSC CO* are analogous to this case: the Colorado SIP, like the Kentucky SIP here, provided that compliance with the visible emission limit "shall be measured by

EPA Method 9." *PSC CO*, 894 F.Supp. at 1459-60. Nevertheless, the *PSC CO* court held that any evidence—especially continuous opacity monitors—could be used to demonstrate non-compliance. *Id.* at 1459-61; *see also U.S. v. LTV Steel Co., Inc.*, 116 F.Supp.2d 624, 633 (W.D. Penn. 2000). Similarly here, non-compliance at Spurlock can be proved with COMs data and the Permit should not exclude such evidence. The Administrator should object to the permit because it may create confusion on this point. 40 C.F.R. § 70.8(c)(1).

2. The Permit Illegally Omits Operating Limitations Applicable to Unit 2

The Permit states that there are no operating limitations on Unit 2. *See* Permit, Ex. A, at p. 7 § 1. This is incorrect. As Sierra Club notes in its comments to DAQ:

> When EKPC applied for a permit to construct Unit 2 in January 1976, EKPC represented that it would construct and operate a pulverized coal unit with a maximum heat input of 4850 million Btu/hour.[1] When EKPC asked to revise the maximum heat rate for Unit 2 from 4,850 million Btu/hour to 5,355 MMBtu/hr the Division rejected the request and stated that a PSD permit was required for such modification. EKPC has not applied for, nor been issued a pre-construction permit for a heat rate change to Unit 2. Therefore, the Permit must include the existing operational limit of 4,850 million Btu/hour.

See Sierra Club Comments (Exhibit B) at p. 7 and Ex. 2 to Ex. B at pp. 44-47; *see also* Brief of United States in Support of Sixth Motion for Summary Judgment, *U.S. v. East Kentucky Power Coop.*, Case No. 04-034-KSF (E.D. Ky, filed Jan. 17, 2006) (arguing that the 4,850 MMBtu/hour restriction is an applicable permit requirement).

[1] The Clean Air Act requires that a PSD applicant construct and operate the source consistent with and according to the specifications provided in its permit application. *See* 40 C.F.R. § 52.21(r); *see also* Notice of Violation Issued to East Kentucky Power Cooperative at ¶ 6 (January 24, 2003) (attached as Exhibit D).

Moreover, the U.S. EPA issued a Notice of Violation and filed an enforcement suit against East Kentucky Power Coop. for violating the applicable 4,850 MMBtu/hour limit. *See* NOV, attached as Ex. D, at pp. 1-2; Compl. ¶¶ 1, 56-59 *U.S. v. East Kentucky Power Coop, Inc.*, Case No. 04-34-KSF (E.D. Ky.), attached as Ex. F. However, DAQ's response to Sierra Club's comment states that "U.S. EPA currently has an enforcement action pending on this issue. Upon resolution of that action, the Division will revisit this issue if necessary." *See* Response to Comments (Ex. C) at p. 26. This is insufficient; a Title V permit must contain all applicable requirements. The permitting authority cannot defer a determination of applicability to some unspecified future date. The Administrator must object to the Permit because it lacks an enforceable heat input limit for Unit 2. *In re Onyx Environmental Services*, Order Responding to Petitioners' Request That the Administrator Object to Issuance of a State Operating Permit, p. 8 (Adm'r Feb. 1, 2006) (hereinafter "Onyx"); *see also* Letter from Beverly H. Banister, Director Air, Pesticides and Toxics Division, USEPA Region 4, to John S. Lyons, Director Dept. Env. Protection (Feb. 18, 2005) (objecting to Title V permit for TVA Plant Paradise for failure to contain a maximum heat input limit).

3. The Permit Illegally Omits PSD Permitting Requirements for Unit 2 Despite U.S. EPA's Finding of a Violation.

As noted above, the Permit must assure compliance with all applicable requirements, including PSD permitting requirements. 42 U.S.C. § 7661c(a); 40 C.F.R. §§ 70.1, 70.2; 401 KAR 51:017. If a source will not be in compliance with a requirement (including PSD) at the time of permit issuance, the applicant must disclose the violation

and provide a narrative showing how it will come into compliance and the permit must include a compliance schedule for bringing the source into compliance. 42 U.S.C. §§ 7661b(b); 40 C.F.R. §§ 70.5(c)(4)(i), (5), (8), and (9); 401 KAR 52.020, §§ 3(1)(b), 4(1) and 5; *Onyx* at pp. 6-7.

The DAQ Statement of Basis for the Permit notes that ""U.S. EPA has brought an action in U.S. District court concerning EPA's allegation of past NSR violations on emission unit 02." *See* Statement of Basis at p. 1 (attached as Exhibit G hereto). This is correct. On January 24, 2003, the U.S. EPA issued a Notice of Violation to East Kentucky Power Coop. for New Source Review Violations at the Spurlock station. *See* Ex. D. Subsequently, on January 24, 2004, the United States filed an enforcement action in federal district court against East Kentucky Power Coop. ("EKPC") for New Source Review violations. *See* Complaint, *United States v. East Kentucky Power Coop.*, Case No. 04-34-KSF (E.D. Ky) (Exhibit F). According to the U.S. EPA, EKPC's New Source Review violations are based on the following facts:

- In January 1976, EKPC applied for a construction permit for Unit 2. *See* Ex. D, pp. 8-14. In its application, EKPC represented that it would construct and operate a pulverized coal unit with a maximum heat input of 4850 million Btu/hour. *Id.*, p. 12.
- On November 10, 1982, EPKC was issued a Title V operating permit which required EKPC to operate Unit 2 at or below the maximum hourly heat input of 4850 MMBtu/hr. *Id.*, p. 37.
- In August, 1992, EKPC began supplying steam from Unit 2 to another facility, Inland Container Corp., despite the fact that EKPC's 1976 construction permit application for Unit 2 stated that all steam generated at Unit 2 would be used to generate electricity. *Id.* at 2-3.
- By operating Unit 2 to supply steam to Inland Container, EKPC violates the requirement to operate in accordance with its application. 40 C.F.R. §

52.21(r)(1). Moreover, the increased steam demand created by connecting to Inland Container Corp and supplying steam also violated the Clean Air Act because it resulted in an unpermitted significant net emission increase.

- EKPC has begun operating Unit 2 at rates far in excess of 4,850 MMBtu/hr. EKPC asked for the DAQ's permission for this change (from 4,850 MMBtu/hr to 5,355 MMBtu/hr) in a letter dated December 15, 1993. *Id.*, p. 40. However, DAQ warned EKPC that such an increase in heat input rate, without a PSD pre-construction permit, violates the Clean Air Act. *Id.*, p. 42. Despite this warning from DAQ, EKPC did increase the maximum heat rate for Unit 2 without a preconstruction permit. This operational change, which was prohibited by EKPC's existing permits, violates 401 KAR 51:017, sec. 8 because it constitutes an unpermitted major modification. *See also* 42 U.S.C. § 7475(a).

- EKPC also made physical changes necessary to provide steam to Inland were not permitted by the Title V permit. *Id.* These changes constitute a physical change subject to PSD permitting. 40 C.F.R. § 52.21(b)(2)(iii)(f).

- EKPC made significant modifications to Unit 2 which increased the peak generation capacity from 508 to 585 MW. Based on EPA's analysis, EKPC anticipated, and subsequently experienced, an increase in utilization of Unit 2. *Id.*, pp. 3-4. The anticipated increase in utilization correlated to a significant net increase in pollutants regulated under the Clean Air Act. *Id.* Despite this anticipated significant net emissions increase, EKPC undertook a physical change without a pre-construction permit by replacing a high-pressure turbine with a turbine of a new and different design. *Id.*

An NOV and commencement of a civil suit conclusively demonstrates "non-compliance for purposes of the Title V review process." *New York Public Interest Research Group v. Johnson*, 427 F.3d 172, 180 (2nd Cir. 2005). The NOV is EPA's official finding that Spurlock is in violation of PSD preconstruction permitting requirements. *Id.* at 181; 42 U.S.C. § 7413(a)(1). Because the U.S. EPA expressly found violations, as described in both the NOV and the Complaint filed against East Kentucky Power Coop., the Permit must address these violations. Specifically, the Permit must contain a

compliance schedule pursuant to which East Kentucky Power Cooperative is required to obtain the necessary PSD permits and comply with best achievable control technology limits. 42 U.S.C. § 7661b(b); 40 C.F.R. § 70.5(c)(4), (5), (8) and (9); 401 KAR 50:020, secs. 3-5; *Onyx* at pp. 6-7.

Additionally, because Unit 2 underwent a major modification, its emissions consume increment. Emissions from Unit 4 (the newest unit) cannot cause or contribute to a violation of a maximum allowable increase over the baseline air quality. 401 KAR 51:017, sec. 9. Baseline air quality expressly excludes "[a]ctual emissions at a major source, which result from construction commencing after the major source baseline date...," regardless of whether the major source commenced construction before or after the minor source baseline. 401 KAR 51:001, Section 1(22). In other words, major modifications, whether permitted or not, consumer increment because they are not included in the "baseline." DAQ issued the Permit and a PSD permit for Unit 4 without considering the impact of Unit 2's emissions on increments. Neither EKPC nor DAQ modeled the additional emissions from Unit 4 together with the increased emissions from the major modifications on Unit 2, to determine whether such emissions violate increment. 401 KAR 51:017, sec. 9. Therefore, the Administrator must object to the Permit unless and until each of the following is done:

1) EKPC submits a complete application, including a sworn disclosure of its violations of New Source Review permitting requirements;

2) EKPC submits a compliance schedule sufficient to bring Unit 2 into compliance with all requirements of the Clean Air Act;

3) The Permit includes a compliance schedule that brings Unit 2 into compliance with all applicable requirements, including New Source Review; and

4) The increased emissions from major modifications at Unit 2 are modeled as consuming increment, rather than being included in the baseline concentration.

4. The Permit Omits A Requirement That EKPC Construct and Operate Unit 3 In Accordance With Its Permit Application.

Sierra Club's public comments on the draft permit noted that the Permit omits an important requirement to operate Unit 3 in accordance with the plans and specifications submitted as part of the pre-construction permit application for that unit. *See* Ex. B at p. 14; Ex. C. at p. 31. Sierra Club's comments noted that such plans and specifications include fuel characteristics, control equipment, and maximum heat rating. *Id.* However, DAQ responded that "[t]he permittee is constrained to build and operate in accordance with all terms and conditions contained in the permit... [which] is written based on the application..." Ex. C at p. 31. In other words, DAQ did not include a requirement that EKPC construct and operate in accordance with its application – requiring only that it operate in accordance with its permit. This is insufficient. The Clean Air Act requires that a PSD applicant construct and operate the source consistent with and according to the specifications provided in its permit application. 40 C.F.R. § 52.21(r); *see also* 401 KAR 51:017, sec. 16(1) ("An owner or operator of a source or modification subject to this administrative regulation who begins actual construction after September 22, 1982, shall construct and operate the source or modification in accordance with the application submitted to the cabinet under this administrative

regulation and 401 KAR 52:020 or under the terms of an approval to construct.") Therefore, the Permit omits an applicable requirement and the Administrator must object.

5. The Permit Contains Erroneous BACT Limits For Unit 3.

BACT limits established in prior Title I permits can be revisited in Title V permitting processes if it is established that the historic BACT determination was erroneous. *In re Chevron Products Co., Richmond, California,* Petition No. IX-2004-08 at 11-12 and n.13 (remanding a Title V permit to the state permitting agency because a PSD permit issued ten year prior contained an erroneous BACT limit). The PSD permit for Unit 3 contains a number of erroneous BACT limits and, therefore, the Administrator must object to the Permit.

Sierra Club's public comments showed that the Unit 3 'BACT' limits for visible emissions, SO2, PM/PM10, NOx and SAM are erroneous. Ex. B. DAQ responded by stating that "[t]he BACT determination for Unit 3 was made during a previous permitting action and there is no basis for performing a new BACT analysis at this time." Ex. C p. 32. This incorrectly assumes that 1) prior erroneous BACT limits cannot be corrected when incorporated into a Title V permit; and 2) Sierra Club did not provide any facts showing that the Unit 3 BACT limits should be lower. DAQ is wrong on both counts. First, as noted above, erroneous BACT limits can be corrected during a Title V permitting process. Second, Sierra Club provided the following facts demonstrating that the Permit's BACT limits for Unit 3 are erroneous:

a) Visible Emissions (Opacity)

The Permit does not contain a visible emission BACT limit for PM and SAM emissions from Unit 3. *See* Permit pp. 12-13. Instead, the Permit contains only a visible emission limit based upon 401 KAR 59:016, sec. 3(2), which is the New Source Performance Standard. This is insufficient to satisfy the requirements of 401 KAR 51:017, sec. 8, which requires a BACT limit to include visible emission standards.

Any new or modified major source, including Spurlock Unit 3, must have a permit requiring BACT. 401 KAR 51:017, sec. 8. 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) (emphasis added); *see also* 40 C.F.R. § 52.21(b)(12). Therefore, the plain language of 401 KAR 51:001 Section 1(25) defines BACT as expressly "including a visible emission standard." However, the Permit fails to include limits that include visible emission standards for PM/PM10 and SAM-- the pollutants that create visible emissions. The Administrator must object to the Permit because it fails to "includ[e] a visible emission standard." 401 KAR 51:001, sec. 1(25).

Notably, other coal plants have BACT limits that include visible emission limits. For example, the Springerville facility in Arizona has a BACT limit of 15 percent opacity, and the Mid-America facility in Council Bluffs has an opacity limit of 5 percent. *See* Iowa DNR Permit No. 03-A-425-P, §10a (Permit available online at http://aq48.dnraq.state.ia.us:8080/psd/7801026/PSD_PN_02-258/03-A-425-P-Final.pdf, last visited October 28, 2005). The Fort James (Fort Howard) paper mill in Green Bay, Wisconsin, has a 10% opacity BACT limit for its 500 MW CFB boiler. *See*

Preconstruction Review and Preliminary Determination on the Proposed Construction of a Circulating Fluidized Bed Combustion Boiler for Fort Howard Paper Company to Be Located At 1919 South Broadway, Green Bay, Brown County, Wisconsin, p. 8 (May 26, 1988), attached as Ex. 4 to Ex. B.

b) Sulfur Dioxide Limits

The Permit contains an SO2 limit for Unit 3 of 0.20 lb/MMBtu, based on a 24 hour average. *See* Permit, Ex. A, p. 13. This limit does not represent BACT for Unit 3 as of June, 2002, when construction commenced on Unit 3. A permit was issued to AES Puerto Rico, well before Unit 3 commenced construction, which establishes a 0.022 lb/MMBtu SO2 limit, based on a three hour average. *See* Ex. 5 to Ex. B at p. 3. The AES Puerto Rico facility consists of two coal-fired CFB units similar to Spurlock Unit 3. *Id.* Nevertheless, Spurlock Unit 3 has a BACT limit almost ten times higher than the AES Puerto Rico plant. The AES Puerto Rico limit must be presumed to be BACT for Unit 3 because EKPC has not demonstrated that it is not technologically feasible or cost effective, nor that it causes unique adverse energy or environmental collateral impacts. U.S. EPA, *New Source Review Workshop Manual* (Draft 1990) (hereinafter "NSR Manual") at B.24; *Newmont Nevada Energy Investments, LLC, TS Power Plant*, PSD Appeal No. 05-04, Slip Opinion at 16 (EAB Dec. 21, 2005). Moreover, other BACT limits established for coal fired CFB units in California prior to the Unit 3 preconstruction permit established lower SO2 emission rates.

- Pyropower Corp. received a SO2 BACT limit of 0.039 lb/MMBtu for a 49.9 MW coal fired CFB in 1986. *See* Ex. 6 to Ex. B at p. 2.

- BMCP (Thomas Oil) received an SO2 BACT limit of 0.039 lb/MMBtu (96% control) for a coal fired CFB in 1986. *Id.* at 3.

- Cogeneration National Corp. received an SO2 BACT limit of 95% control for two coal fired CFB units in 1985. *Id.* at 4.

Neither EKPC nor DAQ demonstrates that these limits are not feasible for Unit 3. Therefore, Unit 3 must be assumed to be subject to these lower limits as BACT. *NSR Manual* at B.24. The SO2 limit for Unit 3 does not represent BACT for Unit 3 at the time Unit 3 commenced construction. Therefore, the Permit contains a deficient limit and the Administrator must object. A correct BACT limit for Unit 3 would be much lower, resulting in significantly less air pollution.

c) Particulate Matter Limits

The Permit contains an erroneous PM BACT limit for Unit 3 of 0.015 lb/MMBtu, averaged over three hours. *See* Ex. A at p. 12. This does not represent BACT for PM emissions from a coal-fired CFB unit at the time that construction commenced on Unit 3. Pennsylvania issued a PSD permit in April 1995 to the Northampton Generating Company with a total PM10 limit of 0.0088 lb/MMBtu. *See* Ex. 4 to Ex. B at pp. 13-14. Northampton is a 1,146 MMBtu/hr circulating fluidized bed boiler, which is similar to Spurlock Unit 3. Compliance testing at Northampton in February, 2001, reported <u>total</u> PM10 emissions of 0.0045 lb/MMBtu. *Id.* Although the Northampton permit identifies "method 5" as the test method used to measure PM, it does not refer to U.S. EPA Method 5. Instead it refers to Pennsylvania method 5. This is an important distinction. The tests conducted on Northampton include condensible PM, which is not included in

a U.S. EPA Method 5 test. Pennsylvania's "Method 5" includes both front half and backhalf emissions (i.e., both filterable and condensible PM). *See* Ex. 8 to Ex. B. In response to requests for information about the tests at Northampton, the Pennsylvania DEQ confirmed that the compliance tests for Northampton included condensible fraction PM in the backhalf of the sampling train. *Id.* Therefore, the Northampton test results indicate that coal-fired CFB boilers were achieving much lower emissions before Unit 3 was permitted. DAQ cannot ignore this evidence. If DAQ does not establish BACT for PM emissions from Unit 3 based on the maximum control achieved in practice at other similar units, it must justify its decision. NSR Manual at B.24. In this case, DAQ simply refused to address the issue.

Because Northampton is achieving lower emission rates, and neither EKPC nor DAQ has shown any reason why such lower emission rates cannot be achieved at Spurlock 3, the BACT limit for total PM emissions at Spurlock 3 must be revised to 0.0088 lb/MMBtu. *NSR Manual* at B.24 ("[i]n the absence of a showing of differences between the proposed source and previously permitted sources achieving lower emission limits, the permit agency should conclude that the lower emission limit is representative for that control alternative."); *Newmont Nevada Energy Investments,* Slip Opinion at p. 16 (E.A.B. 2005). The Administrator must object to the Permit for this reason.

d) Nitrogen Oxides Limit

The Draft Permit contains a permit limit of 0.07 to 0.1 lb/MMBtu (depending on an initial optimization study) for NOx from Unit 3. This is purportedly BACT for NOx

when Unit 3 was constructed. However, BACT in 2002 (when Unit 3 commenced construction), was much lower. A number of coal-fired CFB units in California had lower BACT limits for NOx before 2002 and neither EKPC nor DAQ offers any basis for why Unit 3 should not be subject to as stringent a BACT limit. For example, the BMCP facility had a NOx BACT limit of 0.039 lb/MMBtu for its coal-fired CFB boiler well before the Spurlock 3 permit was issued. *See* Ex. 6 to Ex. B at p. 3. The 0.0039 lb/MMBtu limit for NOx at the BMCP facility represents 80% control of NOx from that facility. *Id.* As noted below for Unit 4, other coal-fired CFB units were subject to lower NOx limits than Spurlock 3 prior to the initial Spurlock 3 permit. While lower limits at a similar facility is not conclusive as to BACT for Unit 3, neither the applicant nor DAQ shows any reason why Unit 3 cannot achieve the lower limits being achieved at similar facilities. Therefore, the BACT limit for Unit 3 was in error when initially issued and must be corrected before the Title V permit can issue. *NSR Manual* at B.24 ("[i]n the absence of a showing of differences between the proposed source and previously permitted sources achieving lower emission limits, the permit agency should conclude that the lower emission limit is representative for that control alternative."). The Administrator must object because the Permit contains an erroneous BACT limit for NOx emissions from Unit 3, which allows much higher emission of NOx than allowed by the Clean Air Act.

e) Sulfuric Acid Mist Limit

The Permit contains a SAM limit of 0.005 lb/MMBtu on a thirty day average, which does not represent BACT for Unit 3 as of the date Unit 3 commenced

construction. *See* Ex. A at p. 13 ¶ k. BACT for SAM in 2002 was much lower. The AES Puerto Rico permit, for a similar coal-fired CFB unit, includes much lower BACT limits and was issued well before the Unit 3 permit. The AES Puerto Rico permit established a SAM BACT limit (from a similarly sized CFB boiler to Unit 3) of 0.0024 lb/MMBtu. *See* Ex. 5 to Ex. B at p. 5. Because this emission limit was established for a similar sized CFB unit, it is technologically feasible, and assumed to be cost effective and BACT for Spurlock 3. *NSR Manual* at B.24. Neither EKPC nor DAQ offers evidence refuting that Unit 3 can achieve this lower BACT limit for SAM. Therefore, the Administrator must object to the Permit as containing an erroneous SAM BACT limit for Unit 3.

6. 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). When operating parameters are relied upon to demonstrate compliance, the permit must either: (1) establish an enforceable parameter range correlated to compliance with the relevant limits; or (2) specify a method for establishing a range and provide that such range is an enforceable permit requirement. *In re Midwest Generation, LLC, Waukegan Generation Station*, Order Responding to Petitioner's Request That the Administrator Object to Issuance of a State Operating Permit at pp. 20-21 (September 22, 2005); *see also In re Port Hudson Operation Georgia Pacific*, Petition No. 6-03-01, at pages 37-40 (May 9, 2003) ("Georgia Pacific"); *In Re Doe Run Company Buick Mill and Mine*, Petition No. VII-1999-001, at pages 24-25 (July 31,

2002) ("Doe Run"); *In re Dunkirk Power LLC*, Order Objecting to Proposed Operating Permit No. II-2002-02 at 20 (Adm'r July 31, 2003) ("Once the operating ranges have been established for the ESP operating parameters [based on emission stack tests], operating the ESP outside of any of these ranges would constitute a violation of the title V permit."); *In the Matter of Oxy Vinyls, LP, Louisville, Kentucky*, Objection to Proposed Part 70 Operating Permit No. 212-99-TV (Feb. 1, 2001) ("The permit must specify the parametric range or procedure used to establish that range, as well as the frequency for re-evaluating the range.").

The Permit contains insufficient monitoring to ensure compliance with PM and hazardous air pollution ("HAP") limits, including hydrogen fluoride. The Permit uses opacity as a surrogate for PM/PM10 compliance. Permit, Ex. A, at p. 16 ¶ b. However, if the source violates the opacity surrogate, it is required to conduct a stack test. Id. The Permit does not explicitly state that a violation of the opacity surrogate range is a violation of the PM limit. U.S. EPA decisions require that a surrogate monitoring range—specifically opacity COMs data—must be enforceable as part of the permit. Specifically, U.S. EPA has determined that if opacity is used as a surrogate for continuous PM monitoring, the permit must specify the opacity range that shows PM compliance based on stack testing and that range must be enforceable. *Waukegan* at pp. 20-21; *Dunkirk Power* at 20; *Doe Run* at pp. 24-25. The Permit fails to do so and, therefore, the Administrator must object to the Permit as containing insufficient monitoring for PM/PM10.

The monitoring for HAPs is also deficient. The Permit requires annual stack tests to ensure compliance with limits for volatile HAPs, mercury, hydrogen chloride, hydrogen fluoride, beryllium, lead, and metals. *See* Permit, Ex. A., at p. 15. However, the Permit contains no method for ensuring compliance during the 12 months between tests. While the Permit requires the source to sample the fuel to establish a correlation between emissions and the HAP content in the fuel, it does not state that it is doing so to establish a method for monitoring continuous compliance. Instead, it requires a correlation between HAP emissions and HAP content in the fuel to be established over a three-year period, at the end of which the permittee can petition to use fuel grab samples rather than stack tests. In fact, DAQ's Response to Comments states that "unless and until [a petition to substitute fuel sampling for stack testing] is made, the fluoride indicator value is not the approved compliance demonstration method, and therefore an exceedances of the fluoride indicator value is not a violation of the fluoride limit." Ex. C at p. 34. This does not satisfy the requirement to establish a method for ensuring continuous compliance. In fact, it directly conflicts with prior U.S. EPA decision holding that surrogate monitoring ranges must be made enforceable in the permit. A once-per-year stack test is simply not enough. The Administrator must object to the Permit and require modifications to the Permit that require regular sampling of fuel HAP content and an enforceable correlation between fuel HAP content and HAP emissions.

7. The Permit Contains BACT Limits for Unit 4 That Violate Applicable Requirements In the Clean Air Act and Implementing Regulations.

a) Introduction

Rather than establishing a static emission limit for new sources, Congress chose to require an emission limit based on the "maximum degree of reduction ... achievable for such source" at the time the source is constructed. 42 U.S.C. §§ 7475(a)(4) (new sources are subject to BACT), 7479(3) (BACT definition). The result is increasingly stringent limits as technology and experience improves the ability to reduce or capture pollutants. The Clean Air Act defines BACT as

> [A]n emission limitation based on the maximum degree of reduction of each pollutant subject to regulation... emitted 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 the 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 each pollutant.

42 U.S.C. § 7479(3). The Kentucky SIP includes a similar definition. 401 KAR 51:001, sec. 1(25). BACT requires a forward-looking analysis of what the facility can achieve in the future, based on what is presently known about the effectiveness of the best pollution control options. *Newmont Nevada Energy Investment*, Slip Op. at 16.

DAQ is required to perform and document its analysis to ensure that BACT limits are at least as stringent as federal BACT. 42 U.S.C. § 7475(a)(4); 40 C.F.R. § 52.21(j). To implement the BACT permitting, EPA established a "top-

down BACT analysis" process, which it outlined in the USEPA's *NSR Manual*.[2] The top-down BACT analysis consists of five steps:

1. Identify all control technologies (including lowest achievable emission rate or LAER)
2. Eliminate technically infeasible options
3. Rank the remaining control technologies by control effectiveness
4. Evaluate the most effective control and document results
5. Select BACT

NSR Manual at Table B-1. If the top alternative is rejected, the next most stringent option is selected as BACT unless the applicant demonstrates, similar to the top alternative, that technical, environmental, or economic considerations justify the rejection of the second option. *Citizens for Clean Air v. EPA*, 959 F.2d 839, 845 (9th Cir. 1992) ("The top-down approach places the burden of proof on the applicant to justify why the proposed source is unable to apply the best technology available."); *see also In re: Spokane Regional Waste-to-Energy Applicant*, PSD Appeal No. 88-12 (EPA June 9, 1989)); *NSR Manual* at B.2; *see also In re: Inter-Power of New York, Inc.* 5 E.A.D. 130, 135 (EAB 1994) ("Under the 'top-down' approach, permit applicants must apply the most stringent control alternative, unless the applicant can demonstrate that the alternative is not technically or economically achievable."); *In re Pennsauken County, New Jersey*

[2] The NSR Manual controls BACT determinations in Kentucky as a practical matter. First, DAQ explicitly implements PSD permitting in Kentucky by applying the *NSR Manual*. Second, the Environmental Appeals Board has held that, when a state permitting agency attaches importance to the NSR Manual, the Manual then serves as "an important reference point in assessing whether [the agency] has acted rationally in the context of a given permit." *In re General Motors, Inc.*, 10 E.A.D. 360, 366 (EAB 2002)

Resource Recovery Facility, 2 E.A.D. 667 (Adm'r 1988), available at 1988 EPA App. LEXIS 27, 28 (Nov. 10, 1988) ("Thus, the 'top-down' approach shifts the burden of proof to the applicant to justify why the proposed source is unable to apply the best technology available."). The intent is to default to the lowest possible emission rate. *NSR Manual* at B.29.

To demonstrate that the top-ranked control option should not be used to establish BACT, the applicant must prove that the most effective option must be rejected based on energy, environmental, or economic impacts- which are unique to the specific facility.

> The [collateral impacts] clause [of the BACT definition] allows rejection of the most effective technology as BACT only in limited circumstances. The collateral impacts clause operates primarily as a safety valve whenever ***unusual circumstances specific to the facility*** make is appropriate to use less than the most effective technology.

In re Kawaihae Cogeneration Project, 7 E.A.D. 107, 116-17 (EAB 1997) (emphasis original); *see also In re World Color Press, Inc.*, 3 E.A.D. 474, 478 (Adm'r 1990) (collateral impacts clause focuses on the specific local impacts); *see also NSR Manual* at B.29 (stating that the energy, environmental, or economic impacts exception to the top-control option is narrow and must be used sparingly).

Although the focus of a BACT analysis is mainly on the control technology or pollution prevention practices applicable to an applicant source, BACT actually refers to the numeric emission limit (i.e., pounds per Million Btu heat input or pounds per hour)

(discussing Michigan's reliance on the NSR Manual); *Masonite Corporation*, 5 E.A.D. 558 (EAB 1994); *Inter-Power of New York, Inc.*, 5 E.A.D. 135 (EAB 1994).

that corresponds with a specific, "best," control option (i.e., a selective catalytic reduction system). *Three Mountain Power* 10 E.A.D. 31, 54 (EAB 2001). Therefore, after DAQ determines the "top" pollutant control option, it must set a corresponding limit based on the maximum pollution reduction achievable by that control technology. 42 U.S.C. § 7479(3).

b) The BACT Limits For Unit 4 Are Unlawfully Based On The Applicant's Proposed Fuel, Rather Than On Clean Fuels, As Required By the Clean Air Act.

The Permit's BACT limits for Unit 4 were established by giving "more weight to those facilities burning similar fuel in proposing BACT" for Spurlock 4. *See* EKPC Jan. 2006 Submittal p. 2 (attached hereto at Ex. H). This truncated analysis is not supported by the definition of BACT, the legislative history of the Clean Air Act, or EPA guidance. Quite the contrary, it is well established that an applicant and permitting authority must determine whether lower pollution rates are achievable by switching to a cleaner fuel. If so, and absent rejection based on site-specific collateral impacts, BACT must be established based on clean fuels and/or fuel cleaning.

Sulfur dioxide emissions from power plants like Spurlock 4 originate as sulfur in the fuel coal. Some of the sulfur content in the coal is removed prior to the boiler, some is removed in the boiler, and some is converted into sulfur trioxide. However, most of the sulfur in the coal is transformed into SO2 in the boiler. As the sulfur content of the coal being fired decreases, so too do the emissions of SO2. Therefore, when attempting to control SO2 emissions from a coal-fired power plant, the place to start is where SO2 originates: the sulfur in the coal. Indeed, Congress specifically defined BACT to require

consideration of less-polluting fuels as a way to reduce emissions. 42 U.S.C. § 7479(3) (defining BACT as the "maximum degree of reduction achievable... through... clean fuels..."). The applicable Kentucky SIP also defines BACT as requiring consideration of less-polluting fuels. 401 KAR 51:001, § 1(25). The legislative history of the Clean Air Act intended to create a preference for lower polluting fuels. The 1990 Clean Air Act Amendments revised section 169(3) to expressly require "clean fuels" as a pollution control option that must be considered when determining BACT. Pub. L. No. 549 § 403(d), 104 Stat. 2399, 2631-32. EPA's contemporaneous interpretation of this amendment was that the "clean fuels" requirement in the definition of BACT codifies the policy "that clean fuels are an available means of reducing emissions to be considered along with other approaches in identifying BACT level controls." Letter from William Rosenberg, U.S. EPA Assistant Adm'r for Air and Radiation, to Henry A. Waxman, Chair, Subcommittee on Health and Environment (Oct. 17, 1990), reprinted in 136 Cong. Rec. at S16916-17.

If there were any doubts as to what Congress intended when it required a permitting agency to consider clean fuels when establishing BACT limits, EPA put them to rest:

> The phrase 'clean fuels' was added to the definition of BACT in the 1990 Clean Air Act amendments. EPA described the amendment to add 'clean fuels' to the definition of BACT at the time the Act passed, 'as * * * codifying its present practice, which holds that clean fuels are an available means of reducing emissions to be considered along with other approaches to identifying BACT level controls.' EPA policy with regard to BACT has for a long time required that the permit writer examine the inherent cleanliness of the fuel.

Inter-Power of New York, 5 E.A.D. at 134 (emphasis added, internal citations omitted); *Knauf*, 8 E.A.D. at 136; *Old Dominion Electric Cooperative*, 3 E.A.D. at 794, n. 39 (EAB 1992) ("BACT analysis should include consideration of cleaner forms of the fuel proposed by the source."); *Hibbing Taconite*, 2 E.A.D. at 842-843 (remanding a permit because the permitting agency failed to consider burning natural gas as a viable pollution control strategy). The United States Court of Appeals for the Ninth Circuit similarly held, in *Hawaiian Elec. Co., Inc. v. EPA*, that low sulfur fuel could be selected as BACT for a facility proposing to burn high sulfur fuel. 723 F.2d 1440, 1442 (9th Cir. 1984).

However, the BACT determination for Spurlock 4 failed to consider lower sulfur coal as a method to reduce SO2 emissions. In fact, the applicant attempted to justify an SO2 BACT limit higher than the limits set for similar facilities, because Spurlock 4 will use high sulfur coal. *See* Sept. 13, 2004 Permit Application pp. 3-8 to 3-9 (attached hereto as Ex. I); EKPC Jan. 2006 Submittal, Ex. H, p. 21.[3] This is not a lawful exercise when establishing a BACT limit. In fact, the U.S. EPA has already taken the position that lower sulfur fuel must be used to establish BACT for Spurlock 4, or be rejected according to the "traditional top-down BACT procedures and selection criteria." *See* Letter from Donald I. Newell, DAQ, to Mike Binkley, EKPC p. 1 (Oct. 19, 2005) (attached as Exhibit J hereto) (requiring EKPC to provide a cost-per-ton-SO2 analysis

[3] EKPC actually tries to have it both ways, by also arguing that it should be subject to a less stringent PM limit also because it "wishes to have the capability to fire both high and low-sulfur coal in the proposed new CFB Boiler." Permit Application p. 3-8 (Sept. 13, 2004).

due to EPA's determination "that fuel switching is an acceptable BACT alternative..."). Therefore, the Administrator must object to the Permit.

If DAQ had complied with the letter and spirit of the Clean Air Act, it would have established BACT for SO2 and SAM at much lower rates. According to the applicant's own analysis, using Powder River Basin coal, or low-sulfur eastern bituminous coal, would reduce SO2 emissions by 1,700 tons per year, or more, and would be cost effective. *See* EKPC Jan. 2006 Submittal, Ex. H, pp. 7-8.[4] If Spurlock 4 burns high-sulfur coal (as it is proposing to do), it will release 2,208 tons of SO2 per year. *Id.* However, if Spurlock 4 burned eastern low-sulfur coal, it would release 302 tons of SO2 per year. *Id.* This switch is cost effective at $3,092 per ton[5] of SO2 reduced. *Id.* Additionally, if Spurlock 4 burned PRB coal, it would emit 270 tons of SO2 per year (an 88% reduction from the facility as proposed). *Id.* This switch is also cost effective at

[4] Even if burning 100% low sulfur coal were not cost effective, EKPC would still have to consider blending low sulfur coal with the high-sulfur coal it proposes to burn as a method of reducing the average sulfur content of the fuel coal.

[5] Permitting agencies typically consider any cost of less than $10,000 per ton to be cost effective for criteria pollutants. A thorough review of BACT determinations at power plants between 1979 and 1999 indicates that costs of SO2 control ranged to $7529/ton in 2002 dollars. Expert Report of Ranajit Sanhu, *United States v. Ohio Edison*, Case. No. C2-99-1181 (S.D. Ohio) pp. 33-34, attached as Exhibit 12 to Ex. B. The South Coast Air Quality Management District established a $9000/ton threshold for SO2 BACT determinations in 1999 dollars. South Coast Air Quality Management District, *Best Available Control Technology Guidelines Part A: Policy and Procedures* (May 21, 1999), attached at Exhibit 13 to Ex. B. This equates to $10,734/ton according to a simple inflation calculation by the Bureau of Labor Statistics. This threshold has been increasing in recent years and some agencies have found costs of $12,000 per ton to be cost effective. Notably, the California Bay Area Air Quality Management District issued guidelines for cost-effectiveness determinations for BACT, which establish a $18,300/ton threshold for SO2. Bay Area Air Quality Management District, *BACT/TBACT Workbook, Guidelines for Best Available Control Technology*, p. 4, attached as Exhibit 14 to Ex. B.

$8,033/ton[6]. *Id.* Both of these cleaner fuels is a cost-effective method to reduce SO2 emissions and must be used as a basis for establishing a BACT limit for SO2.

Contrary to DAQ's response to Sierra Club's comments, establishing BACT based on low sulfur, clean fuel does not "redefine" the fundamental purpose of the proposed source. *In re Hibbing Taconite Company*, 2 E.A.D. at 842-43 (Adm'r 1989) (explaining that the "redefining the source" policy only prevents the permitting agency from requiring the applicant to build a different type of facility, not a fuel with different characteristics). Moreover, EKPC, itself, actually plans to use low sulfur coal. *See* Sept. 13, 2004 Permit Application, Ex. I, p. 3-8 (EKPC "wishes to have the capability to fire both high and low-sulfur coal..."). Ironically, while asserting its plan to burn high sulfur coal as the reason it should not be required to achieve a lower SO2 limit, EKPC also asserts its plan to burn low-sulfur coal as a reason it should not be required to achieve a lower PM limit. *Id.* In fact, DAQ's Response to Comments rejects the applicant's argument that BACT should be based on the applicant's chosen coal. Ex. C at p. 20.

The EAB's decision in *In re Newmont Nevada Energy Investment, LLC*, PSD Appeal No. 05-04 (EAB Dec. 21, 2005), is not contrary. In *Newmont*, as the EAB specifically pointed out, the petitioner did not contest the fuel selection proposed for the plant. *Newmont Nevada Energy Investment*, at p. 22. In this case, Sierra Club is asking the

[6] It should be noted that EKPC's analysis also underestimates the SO2 removal for PRB coal, and therefore increases the cost-per-ton of SO2 removed. *See* EKPC Jan. 2006 Submittal, Ex. H, p. 7 (assumes 98% control for all coals, except PRB coal). If the same 98% control were assumed for PRB coal (which is achievable with various wet scrubbers), the cost per ton of SO2 removed for PRB coal is $5,838/ton. This

Administrator to object to the Title V permit for Spurlock because it does not include an accurate BACT limit for SO2. DAQ's refusal to establish BACT for SO2 based on lower sulfur fuels is an error that results in an SO2 limit that is too high. The Administrator must object.

c) The Permit Contains An Erroneous SO2 BACT Limit Because DAQ Failed To Determine BACT Based On Fuel Cleaning, As Required By the Clean Air Act.

In addition to considering lower sulfur coal, the BACT analysis for Spurlock 4 must consider coal washing. 42 U.S.C. § 7479(3) (BACT must be based on the maximum achievable reduction based on "fuel cleaning"). According to the applicant's own analysis, coal washing would reduce SO2 emissions at Spurlock 4 by 203 tons per year and would cost $423 per ton of SO2 removed or prevented. *See* EKPC Jan. 2006 Submittal, Ex. H, p. 8. This is a cost effective pollution control option that must be used to establish BACT.

DAQ does not disagree that coal washing is cost effective and must be considered in a BACT determination. DAQ argues, based on information that was never presented in the record and is only allegedly available from an industry website: "Coal washing is not uniformly effective in reducing sulfur in eastern coal. According to publicly available information at http://www.coaleducation.org, the sulfur content of Eastern Kentucky coal is not significantly reduced by coal washing." Ex. C at p. 56. In addition to inappropriately relying on an industry website outside the permit record,

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is very cost effective. Additionally, if the cost of SO2 credits is included, which currently cost between $1,800 and $2,500 per ton, low sulfur fuel is even more cost effective.

DAQ's rejection of coal washing based on alleged ineffectiveness on East Kentucky coal ignores the fact that the applicant is not entitled to its preferred source of coal. Different types of coal must be considered in a BACT determination. Therefore, if Western Kentucky coal, PRB coal, or another coal source is capable of sulfur reduction through coal washing, it must be considered as the basis for an SO2 BACT limit. The Permit contains an SO2 limit for Spurlock 4 that is too high because it fails to consider coal washing, which DAQ and the applicant concede is a cost effective pollution reduction method. The Administrator must object.

d) The BACT Limits For Unit 4 Are Erroneous Because DAQ Unlawfully Failed To Consider The Lower Emission Rates Achievable Through Integrated Gasification Combined Cycle, A Cleaner Process and Innovative Fuel Combustion Technique.

The Administrator must object to the Permit because it contains limits that do not represent BACT. A BACT analysis for a coal fired power plant must include consideration of Integrated Gasification Combined Cycle ("IGCC") technology. IGCC is an inherently cleaner production process for the generation of electricity from coal that prevents the emissions of regulated pollutants into the atmosphere by removing contaminants such as sulfur and mercury from the hydrocarbons in the coal before the hydrocarbons are burned. IGCC is an established technology that is already "available" for commercial power production applications and at competitive costs, and within the meaning of 42 U.S.C. §7479(3). *See e.g.*, Gregory B. Foote, *Considering Alternatives: The Case For Limiting CO2 Emissions From New Power Plants Through New Source Review*, 34 ELR 10642, 10647 & n.54, 10659-60; *see also* Edward Lowe, General Manager,

Gasification, GE Energy, *GE's Gasification Developments*, presented at Gasification Technologies 2005 Conference, San Francisco, CA, (October 10, 2005); Ron Herbanek, Mechanical Engineering Director, E-Gas and Thomas A. Lynch, Project Development Manager, ConocoPhillips, *E-Gas Applications for sub-Bituminous Coal*, presented at Gasification Technologies 2005 Conference, San Francisco, CA, (October, 11 2005). Two full-scale commercial IGCC electric generating units are in operation in the United States: Cinergys 192 MW unit at Wabash River, Indiana, and Tampa Electric Co.'s 262 MW unit at Polk plant. *See* Resource Systems Group, In, EPIndex, available at www.epindex.com.

IGCC constitutes a cleaner production process and an innovative fuel combustion technique under the definition of BACT. NOx emissions from an IGCC plant are lower than those for modern coal-fired plants. *Compare* Permit for Elm Road Generating Station at pp. 110-121 (emission limits for IGCC plant) (attached as Exhibit K) *to* Ex. A at pp. 25-27 (emission limits for Spurlock 4). In fact, U.S. EPA has recognized IGCC as an inherently low-polluting process in a presentation given by EPA representatives. *See, e.g.*, Robert J. Wayland, U.S. EPA Office of Air and Radiation, OAQPS, "U.S. EPA's Clean Air Gasification Activities", Presentation to the Gasification Technologies Council Winter Meeting, January 26, 2006; "U.S. EPA's Clean Air Gasification Initiative," Presentation at the Platts IGCC Symposium, June 2, 2005. Moreover, U.S. EPA's notice and comment rulemaking for New Source Performance Standards also found, after investigation, that IGCC is an effective method for controlling SO2 emissions from the production of steam generated electricity.

> [SO2 control] can be accomplished by burning... a fuel that has been pre-treated to remove sulfur from the fuel... There are two ways to pre-treat coal before combustion to lower sulfur emissions: Physical coal cleaning and gasification... Coal gasification breaks coal apart into its chemical constituents (typically a mixture of carbon monoxide, hydrogen, and other gaseous compounds) prior to combustion. The product gas is then cleaned of contaminants prior to combustion. Gasification reduces SO2 emissions by over 99 percent.

U.S. EPA, *Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978*, 70 Fed. Reg. 9706, 9710-11 (February 28, 2005). In summary, IGCC is a different process and combustion technique, which achieves much lower emission rates than the process proposed for Spurlock 4.

IGCC must be considered in a BACT determination. Both the plain language of the Clean Air Act and the legislative history behind the Act require it. The Clean Air Act requires BACT limits to be "based on the maximum degree of reduction of each pollutant... achievable for such facility through application of production processes and available methods, systems, and techniques, including ... innovative fuel combustion techniques..." 42 U.S.C. § 7479(3).

Congress explicitly recognized IGCC as a 'production process and available method[], system[] and technique,' when enacting the BACT definition in 1977. The congressional history of the BACT definition includes the following discussion:

> Mr. HUDDLESTON. Mr. President, I send to the desk an unprinted amendment.
>
> The PRESIDING OFFICER. The amendment will be stated.
>
> The legislative clerk read as follows:

The Senator from Kentucky (Mr. HUDDLESTON) proposes an unprinted amendment numbered 387: On page 18, line 15, after "ment" insert "or innovative fuel combustion techniques."

Mr. HUDDLESTON. Mr. President, the proposed provisions for application of best available control technology to all new major emission sources, although having the admirable intent of achieving consistently clean air through the required use of best controls, if not properly interpreted may deter the use of some of the most effective controls.

The definition in the committee bill of best available control technology indicates a consideration for various control strategies by including the phrase "through application of production process and available methods, systems, and techniques, including fuel cleaning or treatment." And I believe it is likely that the concept of BACT is intended to include such technologies as low Btu gasification and fluidized bed combustion. But, this intention is not explicitly spelled out, and I am concerned that without clarification, the possibility of misinterpretation would remain.

It is the purpose of this amendment to leave no doubt that in determining best available control technology, all actions taken by the fuel user are to be taken into account- be they the purchasing or production of fuels which may have been cleaned or up-graded through chemical treatment, gasification, or liquefication; use of combustion systems such as fluidized bed combustion which specifically reduce emissions and/or the post-combustion treatment of emissions with cleanup equipment like stack scrubbers.

The purpose, as I say, is just to be more explicit, to make sure there is no chance of misinterpretation.

Mr. President, I believe again that this amendment has been checked by the managers of the bill and that they are inclined to support it.

Mr. MUSKIE. Mr. President, I have also discussed this amendment with the distinguished Senator from Kentucky. I think it has been worked out in a form I can accept. I am happy to do so. I am willing to yield back the remainder of my time.

123 Cong. Rec. S9434-35 (June 10, 1977) (debate on P.L. 95-95) (emphasis added).

Interestingly, DAQ determined early in the permitting process for Spurlock 4 that IGCC must be considered in a BACT analysis. In a February 9, 2005 letter to the applicant, DAQ states:

> ...IGCC was excluded from consideration. Justification of why IGCC is not appropriate to consider under 401 KAR 51:017 or sound technical reasons for exclusion must be submitted. For instance, CITGO's Lake Charles gasification project is scheduled to begin commercial operation in the first quarter of 2005, the Lima Energy Facility, a 580-megawatt coal fired plant, is also not addressed.

Letter from Ben Markin, Combustion Section Supervisor, Division of Air Quality, to Robert Hughes, East Kentucky Power Cooperative at 2 (Feb. 9, 2005) (on file with Ky. DAQ).

DAQ, however, refused to consider IGCC and either establish BACT for Spulock 4 based on IGCC or reject IGCC based on energy, economic or environmental impacts. DAQ's response to Sierra Club's comments states:

> IGCC would result in a redefinition of the basic design of the project and is not required under a BACT analysis. While the Division has asked for a review of IGCC technology in recent permits, it is the Division's understanding of the BACT review process that a fundamental redefinition of the project to an IGCC process is not required.
>
> In addition, Stephen D. Page, Director, Office of Air Quality Planning and Standards, recently addressed this issue in his letter on December 13, 2005. Director Page determined that U.S. EPA "would not require an applicant to consider IGCC in a BACT analysis for a SCPC unit." While the Division is aware that this determination of U.S. EPA is being challenged, we find that letter is consistent with the Division's understanding of the Act and regulations.

Ex. C at p. 44.

Contrary to DAQ's misinterpretation of the Clean Air Act, a BACT limit must be establish based on cleaner production processes and innovative fuel combustion techniques such as IGCC. Establishing BACT based on cleaner processes for generating electricity from coal does not "redefine the source." The Clean Air Act states that "[n]o major emitting facility... may be constructed... unless... the proposed facility is subject to the best available control technology for each pollutant subjected to regulation under this chapter emitted from, or which results from, such facility..." 42 U.S.C. § 7475(a) and (a)(4) (emphasis added). EPA's "redefining the source" policy is nothing more than the recognition that BACT is applied to the "major emitting facility," and does not require a different "major emitting facility." The "redefining the source" policy has no application in this case, where IGCC and the proposed CFB combustion technique are the same type of "major emitting facility."

An IGCC and a CFB are both electric generating techniques. In 1998 EPA adopted a nitrogen oxide limit as part of its new source performance standards that applied to all new electric generating units, regardless of whether it uses pulverized coal or IGCC combustion technologies. *Revision of Standards of Performance for Nitrogen Oxide Emissions From New Fossil-Fuel Fired Steam Generating Units*, 63 Fed. Reg. 49442 (September 16, 1998). Additionally, on February 28, 2005 EPA proposed to revise its new source performance standards for the new electric generating units source category and, again, did not distinguish between pulverized coal and IGCC technologies. 70 Fed. Reg. 9706 (Feb. 28, 2005). In this recent rulemaking EPA treats all electric

generating units that burn coal-- including gasified coal and CFB-- as the same source category, and therefore as the same "source." This is consistent with the Clean Air Act definition of "major emitting facility," which refers to a broad industrial category, such as "fossil fuel steam electric plant" and "iron and steel mill plants," and not to a specific combustion process or technique used. 42 U.S.C. § 7479(1). It is also consistent with U.S. EPA's definition of "major emitting facility" based on the two digit classification codes from the Standard Industrial Classification Manual ("SIC Manual"). *See Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans*, 45 Fed. Reg. 52676, 52694-95 (Aug. 7, 1980). IGCC falls within the SIC Manual's "Major Group 49: Electric Services," the same type of "major emitting facility" as the CFB proposed by the applicant. In summary, IGCC and CFB are the same type of "major emitting facility" and, therefore, DAQ must establish BACT based on the cleaner IGCC process, which does not redefine the source.

Furthermore, U.S. EPA has long recognized that the "redefining the source" policy only applies when it would force the applicant to forego its industrial purpose for a different commercial venture. *In re Pennsauken County,* PSD Appeal No. 88-8 pp. 10-11 (interpreting the "redefining the source" to prevent a municipal waste incinerator to consider electrical generation in a BACT analysis); *In re Hibbing Taconite Company*, 2 E.A.D. at n. 12 (Adm'r 1989) (reaffirming that the "redefining the source" policy only applies if the applicant would be forced to change the fundamental purpose of its facility).

In *Pennsauken County, New Jersey, Resource Recovery Facility* the petitioner asked the EPA Administrator to deny a PSD permit to a municipal waste combustor and, instead, require the county to dispose of its waste by co-firing it with coal in existing power plants. PSD Appeal No. 88-8 at 10 (Adm'r, Nov. 10, 1988). The petitioner in *Pennsauken County* asked the EPA to order the applicant to engage in a different type of activity: electricity generation, rather than waste disposal. Not surprisingly, the Administrator determined that BACT cannot "redefine the source" from a waste combustor to a power plant.

> Petitioner Filipczak's fundamental objections to the Pennsauken permit are not with the control technology, but rather, with the municipal waste combustor itself. He urges rejection of the combustor in favor of co-firing a mixture of 20% refuse derived fuel and 80% coal at existing power plants. These objections are beyond the scope of this proceeding and therefore are not reviewable under 40 C.F.R. 124.19, which restricts review to "conditions" in the permit. Permit conditions are imposed for the purpose of ensuring that the proposed source of pollutant emissions-- here, a municipal waste combustor-- uses emission control systems that represent BACT, thereby reducing the emissions to the maximum degree possible. These control systems, as stated in the definition of BACT, may require application of "production processes and available methods, systems, and techniques, including fuel cleaning as treatment or innovative fuel combustion techniques" to control the emissions. The permit conditions that define these systems are imposed on the source as the applicant has defined it... [T]he source itself is not a condition of the permit.

Pennsauken County at 10-11 (emphasis added). The Administrator subsequently reaffirmed the *Pennsauken County* decision and explained that "source," within the newly created "redefining the source" policy, refers to a source category.

> In Pennsauken, the petitioner was urging EPA to reject the proposed source (a municipal waste combustor) in favor of using existing power plants to co-fire a mixture of 20% refuse derived fuel and 80% coal. In other words, the petitioner was seeking to substitute power plants (having as a fundamental purpose the generation of electricity) for a municipal waste combustor (having as a fundamental purpose the disposal of municipal waste)...

In re Hibbing Taconite Company, 2 E.A.D. at n. 12 (Adm'r 1989) (parentheticals original, emphasis added). After clarifying that the "redefining the source" policy only prevents substituting a type of industrial category for another, the Administrator explicitly rejected the idea that the "redefining the source" policy prohibits consideration of cleaner processes as long as the fundamental purpose remains the same.

> [O]ne argument that could be made is that the Region, by requiring the burning of natural gas to be an alternative to be considered in the BACT analysis [for a petroleum coke-fired plant], is seeking to "redefine the source." Traditionally, EPA has not required a PSD applicant to redefine the fundamental scope of its project... [The redefining the source] argument has no merit in this case.
>
> EPA regulations define major stationary sources by their product or purpose (e.g., "steel mill," "municipal incinerator," "taconite ore processing plant," etc.), not by fuel choice. Here, Hibbing will continue to manufacture the same product (i.e., taconite pellets) regardless of whether it burns natural gas or petroleum coke... The record here indicates that there are other taconite plants that burn natural gas, or a combination of natural gas and other fuels. Thus, it is reasonable for Hibbing to consider natural gas as an alternative in its BACT analysis.

Id. at 842-843 (parenthetical original, emphasis added). In fact, the Administrator further explained that the "redefining the source" policy did not allow the permitting agency to blindly accept the source design, or fuel, proposed by the applicant. *Id.* In

this case DAQ argues that it is restricted to the specific facility design proposed by the applicant. This is a misinterpretation of the Clean Air Act. At most, DAQ is restricted to the source category (i.e., electric services), which is irrelevant here because IGCC and CFB are the same category.

e) The BACT Limits For PM and SAM For Unit 4 Are Erroneous Because They Fail To Include a Visible Emission Standard, In Addition to An Emission Rate Limit, As Required By The Kentucky SIP.

The Administrator must object to the Permit because the BACT limits for Unit 4 do not contain a visible emission limit as required by the definition of BACT contained in the Kentucky SIP. DAQ erroneously believes that no visible emission limit based on BACT is required for Unit 4. Specifically, DAQ asserts:

> An agency may use opacity as an emission limitation. There is neither a federal requirement nor a state requirement to have an opacity limit other than that contained in the applicable regulations. For this to be the case, one would have to read that opacity were [sic] a regulated pollutant. Opacity may be an indicator of particulate matter, fumes, gases or vapor, but it 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. The regulated NSR pollutant PM/PM10 will be monitored with PM CEMs. This will provide a continuous method for ensuring compliance with the particulate matter emissions standard.

Ex. C at p. 46. This response can be simplified as stating that DAQ: 1) does not believe that opacity is a "regulated NSR pollutant;" and 2) believes that the pollutants that constitute "visible emissions" (e.g., PM/PM10) are adequately monitored without a visible emission standard. DAQ is wrong.

In the Kentucky SIP, BACT is defined as an "emissions limitation, including a visible emission standard..." 401 KAR 51:001, Section 1(25); *see also* 42 U.S.C. § 7479(3); 40 C.F.R. § 52.21(b)(12). This is a non-discretionary requirement to include a visible emission standard in each BACT limit for pollutants constituting visible emissions (i.e., PM/PM10 and SAM). Although a BACT limit for PM, PM10, or SAM typically includes an emission rate limit (i.e., pounds per hour or pounds per million Btu heat input), a BACT limit must, nevertheless, also "includ[e] a visible emission standard." *Id.* Therefore, DAQ's belief that PM/PM10 and SAM are adequately measured through the use of CEMs is irrelevant. The plain language of the Kentucky SIP requires BACT limits to include a visible emission standard.

Other recent coal plant permits include visible emission as part of the BACT limits for those facilities. For example, the Mid-America facility in Council Bluffs has an opacity limit of 5 percent. *See* Iowa DNR Permit No. 03-A-425-P, §10a (Permit available online at http://aq48.dnraq.state.ia.us:8080/psd/7801026/PSD_PN_02-258/03-A-425-P-Final.pdf, last visited October 28, 2005). The Wisconsin Department of Natural Resources set a 10% opacity limit as BACT for the Fort Howard (Fort James) Paper Company's 500 MW CFB boiler. *See* Ex. 4 to Ex. B p. 8. The Minnesota Pollution Control Board also considered this issue and determined that a 5% opacity limit should be established based on BACT. Ex. 9 to Ex. B at pp. 15, 22, 26, 40. U.S. EPA also required a 10% visible emission standard, based on BACT, in a draft PSD permit issued by EPA for the Desert Rock plant in Arizona. *See* Exhibit L at p. 6. Moreover, the application for Spurlock 4 proposed visible emission standard based on BACT. *See*

Permit Application p. 3-7 Table 3-2, 3-9 (Sept. 13, 2004) ("East Kentucky Power is proposing a BACT limit of 20% opacity...").

Furthermore, DAQ is flat wrong that visible emissions is not a "regulated NSR pollutant" under the Kentucky SIP. BACT is required for "each regulated NSR pollutant," which is defined to include each "pollutant that is subject to any standard promulgated under 41 [sic] U.S.C. 7411." 401 KAR 51:001, sec. 1(25) and (210)(b). Visible emissions, or "opacity," is regulated pursuant to NSPS standards promulgated under 42 U.S.C. § 7411. 40 C.F.R. § 60.43b(f). Therefore, it is a "regulated NSR pollutant," and a BACT limit must be established for it. 401 KAR 51:001, sec. 1(25) and (210)(b). Because the Permit lacks a BACT[7] limit for visible emissions, the Administrator must object.

f) The Permit Fails To Include A BACT Limit For PM2.5, As Required By the Clean Air Act.

The Permit does not include a BACT limit for PM2.5 emissions from Unit 4. Kentucky's PSD program, which is incorporated into the Kentucky SIP, requires a BACT limit "for <u>each</u> regulated NSR pollutant for which the source has the potential to emit in significant amounts." 401 KAR 51:017, sec. 8(2). A "regulated NSR pollutant"

[7] The Permit contains an opacity limit of 20%, except that a maximum of twenty-seven percent for not more than 1 six-minute per hour. Permit (Ex.A) at p. 26 ¶ c. This limit is based on the NSPS standard in Kentucky's SIP, and not on BACT level control. *Id.* BACT for a CFB boiler is much lower than 20%. For example, the JEA Northside CFB in Jacksonville, Florida, conducted a compliance test during the summer of 2002, while burning high-sulfur coal, and measured opacity of less than 2%. William Goodrich, et al., *Summary of Air Emissions from the First Year Operation of JEA's Northside Generating Station*, Presented at ICAC Forum '03, p. 16 (Ex. 10 to Ex. B). Testing done by Black & Veatch for the Department of Energy showed visible emissions at the JEA facility of 1.1 and 1.0% opacity. *See* Black & Veatch, *Fuel Capability Demonstration Test Report 1 for the JEA Large-Scale CFB Combustion Demonstration Project*, DOE Issue Rev. 1

includes any "pollutant for which a national ambient air quality standard has been promulgated..." and any other "pollutant that otherwise is subject to regulation under 42 U.S.C. 7401 to 7671q...." 401 KAR 51:001, sec. 1(210)(a), (d). PM2.5 is a "regulated NSR pollutant" because EPA established a "national ambient air quality standard" for PM2.5 in 1997. 62 Fed. Reg. 38711; 40 C.F.R. § 50.7. The Court of Appeals rejected industry's collateral attacks on the rule in 2002, upholding the PM2.5 NAAQS. *American Trucking Associations, Inc. v. EPA*, 283 F.3d 355 (D.C. Cir. 2002). Therefore, PM2.5 is both a pollutant for which a NAAQS is established and a pollutant subject to regulation under the Clean Air Act, either of which makes PM2.5 a "regulated NSR pollutant" under 401 KAR 51:001, sec. 1(210). Furthermore, PM2.5 will be emitted from Spurlock 4 in a "significant" amount because it will be emitted at "any emission rate." 401 KAR 51:001, sec. 1(221)(b). Therefore, a BACT limit for PM2.5 is required. 401 KAR 51:017, sec. 8(2). Nevertheless, the Permit does not contain a BACT limit for PM2.5 emissions. This is an error that requires objection from the Administrator.

DAQ refused to include a BACT limit for PM2.5. It asserts that "[a]t this time, US EPA has not established implementation protocols nor have they promulgated reference test methods for the PM2.5 standard. All EPA guidance and procedures involve using PM10 as a surrogate for PM2.5." Ex. C at p. 48. This is irrelevant. Nothing in the Kentucky SIP conditions the requirement to establish BACT limits on U.S. EPA first establishing implementation protocols and reference test methods. 401

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p. 12 (Sept. 3, 2004)(Ex. 11 to Ex. B). Therefore, the failure to include a BACT visible emission limit results in a visible emission limit in the Permit that is too lax. The Administrator must object to the Permit.

KAR 51:001, sec. 1(210), (221), and 401 KAR 51:017, sec. 8(2). Additionally, DAQ's apparent reliance on PM10 as a surrogate is arbitrary. The premise for U.S. EPA establishing NAAQS for PM2.5 was that the PM10 standards were not sufficient. In light of that finding, reverting to compliance with PM10 standards as a surrogate for PM2.5 standards is inadequate. Moreover, EPA's "guidance" that DAQ refers to does not and cannot bind states or the EPA as a matter of law and cannot negate the requirement in the Kentucky SIP to set a BACT limit for every pollutant for which U.S. EPA has established a NAAQS. *See* Memorandum from Stephen Page, Implementation of New Source Review Requirements in PM-2.5 Nonattainment Areas, p. 4 ("The statements of [the 1997 Seitz memo] do not bind State and local governments and the public as a matter of law."). The Administrator must object to the Permit and DAQ must include a BACT limit for PM2.5.

g) The Permit Contains An Erroneous BACT Limit For PM Emissions From the Cooling Tower For Unit 4 Because DAQ Unlawfully Restricted Its Analysis To the Facility Design Desired By the Applicant.

PM and PM10 emissions will result from the cooling towers planned for Spurlock 4. Sierra Club provided comments and evidence demonstrating that BACT for PM/PM10 emissions was the use of a less polluting cooling process—and air cooled condenser ("ACC"). Ex. B. at pp. 39-40. DAQ does not disagree that an ACC would eliminate nearly all of the PM/PM10 emissions from the cooling process, nor that an ACC is cost-effective when compared to the entire cooling process proposed for Spurlock 4 (cooling tower, raw water clarification, and intake structures). Instead, DAQ

rejected Sierra Club's comment based on its erroneous interpretation of law that restricts a BACT determination to the specific equipment desired by the applicant.

> The Division acknowledges the comment but does not concur. A cooling tower is an integral part of the design of the facility. 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%, as included in the permit, is BACT.

Ex. C at p. 49. There is nothing to support DAQ's interpretation of BACT wherein the permitting agency is restricted to the "integral design" chosen by the applicant. To the contrary, the Clean Air Act requires BACT to be established based on lower polluting "production processes and available methods [and] systems... for control of each pollutant." 42 U.S.C. § 7479(3). DAQ's interpretation of the Clean Air Act would restrict BACT to the equipment designated as "integral" by the applicant. An applicant could deem Selective Non-catalytic Reduction as "integral" and avoid BACT based on Selective Catalytic Reduction. Or an applicant could deem an Electrostatic Precipitator as "integral" as avoid BACT based on a baghouse. This not only undermines BACT, but it has no basis in law. The Administrator must object to the Permit because the BACT limit for PM/PM10 emissions from the cooling tower for Unit 4 is premised on an erroneous interpretation of BACT. A correct interpretation would result in a much lower PM/PM10 emission rate.

h) The Limit on PM/PM10 Emissions From the Cooling Tower Includes Deficient Monitoring and Reporting.

The PM limit for the cooling towers requires the cooling tower to "utilize 0.0005% Drift Eliminators." Permit, Ex. A, p. 67. This is not BACT, and it is not an enforceable emission limit. The Permit only requires that the cooling tower "utilize 0.0005% Drift Eliminators." Drift rate, by itself, does not correspond to PM emissions. Nor is "drift" a regulated pollutant. The Permit must contain a BACT limit for PM/PM10.

PM is formed when the drift from a cooling tower evaporates and leaves minerals and other solids that had been dissolved in the drift as suspended particulate in the air. Therefore, PM/PM10 emissions result from the drift fraction (i.e., 0.0005% drift), the concentration of dissolved solids in the circulating water, and the circulating water flow rate. Absent a limit on the dissolved solids in the circulating water, and the maximum circulating water flow, a 0.0005% drift rate does not limit PM. An effective BACT limit must either directly limit PM/PM10, or must regulate all necessary factors that result in PM/PM10 emissions. The Permit must limit the concentration of dissolved solids in the circulating water and the circulating water flow rate, in addition to the drift rate from the cooling tower. Notably, the Permit requires monitoring of dissolved solids and "maximum pumping capacity," acknowledging that these are important factors in determining PM/PM10 emissions from the cooling tower. Permit (Ex. A) at 67-68.

Furthermore, the Permit does not require a correlation between PM/PM10 emissions and the flow rate, dissolved solids, and drift rate. *Id.* Furthermore, the Permit relies on a one-time drift rate test, over the entire life of the cooling tower, rather than periodic drift rate tests. *Id.* This is not sufficient monitoring to demonstrate continuous compliance with the applicable limit. 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). If operating parameters—such as drift, flow rate, and dissolved solids-- are relied upon to demonstrate compliance, the permit must either: (1) establish an enforceable range for each of these parameters that correlates to compliance with the relevant limits; or (2) specify a method for establishing such a range and provide that such range is an enforceable permit requirement. *In the Matter of Midwest Generation, LLC, Waukegan Generation Station*, at pp. 20-21; *see also Georgia Pacific*, at pages 24-25; *Doe Run*; *In the Matter of Dunkirk Power LLC*; *In the Matter of Oxy Vinyls, LP, Louisville, Kentucky*. The Administrator must object because the Permit contains deficient monitoring for PM/PM10 emissions from the cooling tower.

Additionally, the Administrator should object to the Permit because DAQ did not respond to Sierra Club's comments regarding the need to limit dissolved solids and flow rate. *See* Ex. B at pp. 38-39 (Sierra Club comments regarding dissolved solids and flow rate); Ex. C at p. 49 (DAQ response addressing only Sierra Club's ACC comment); *In the Matter of Midwest Generation, LLC, Waukegan Generating Station*, Petition No. V-

2004-5 p. 4 (Adm'r Sept. 22, 2005) (objecting to Title V permit when the permitting agency failed to respond to comments raised by the public).

i) The Permit Fails To Include a BACT Limit for Mercury and Beryllium as Required By the Kentucky SIP At the Time the Permit Was Issued.

The Permit must contain a BACT limit for mercury and beryllium emissions from Unit 4, pursuant to 401 KAR 51:017. The existing Kentucky SIP—at the time the Permit was issued-- requires BACT limits for facilities that emit mercury in a "significant" amount. The level at which mercury and beryllium emissions are emitted in a "significant" amount has recently been changed in the Kentucky administrative regulations, but the change has not yet been approved by the EPA. EPA proposed to adopt Kentucky's SIP revisions, 71 Fed. Reg. 6988, but had not issued a final rule to this effect before the Permit was issued. Therefore, it is the existing SIP that controls and a BACT limit is required for mercury and beryllium. *See General Motors Corp. v. United States*, 496 U.S. 530, 540 (1990) ("There can be little or no doubt that the existing SIP remains the "applicable implementation plan" even after the State has submitted a proposed revision."); *United States v. Murphy Oil USA, Inc.*, 143 F.Supp.2d 1054, 1101 (W.D. Wis. 2001) (SIP cannot be changed without EPA approval).

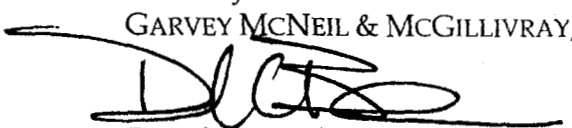
Moreover, the new rules also require a BACT limit for mercury. Because mercury is "subject to [a] standard promulgated under 4[2] U.S.C. 7411," it is a "regulated NSR pollutant" under 401 KAR 51:001, sec. 1(210). *See* Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units; Final Rule, 70 Fed. Reg. 28606 (May 18, 2005) (to be codified at 40 C.F.R. pt. 60)

(establishing limits for mercury pursuant to 42 U.S.C. § 7411). As a "regulated NSR pollutant" a BACT limit is required by 401 KAR 51:017, sec. 8. *See also* 401 KAR 51:001. sec. 1(221)(b) (because mercury is not listed in 401 KAR 51:001, sec. 1(221)(a), any amount of mercury emission is a "significant" amount.).

DAQ responded that it is not required to establish a BACT limit for mercury or beryllium because Section 112 of the Clean Air Act, 42 U.S.C. § 7412, sets forth requirements for hazardous air pollutants. *See* Response to Comments, Ex. C, p. 73. Specifically, DAQ relies on 42 U.S.C. § 7412(b)(6), which notes that "[t]he provisions of part C (prevention of significant deterioration) shall not apply to pollutants listed under this section." *Id.* DAQ's response is in error for two reasons. First, the requirement to establish a BACT limit for mercury and beryllium is contained in Kentucky's SIP, and not part C of the Clean Air Act. *See* 401 KAR 51:017, sec. 8 and 51:001, sec. 1(210). Second, Section 112 of the Clean Air Act is expressly not intended to preempt a more stringent requirement established under either part C of the Act or a SIP. 42 U.S.C. § 7412(d)(7). Therefore, DAQ erred as a matter of law in omitting BACT limits for mercury and beryllium and the Administrator must object.

Dated this 15th day of August, 2006.

Attorneys for Sierra Club
GARVEY MCNEIL & MCGILLIVRAY, S.C.



David C. Bender

SIERRA CLUB
Bruce E. Nilles

BEFORE THE ADMINISTRATOR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of the Proposed Revised Operating Permit for the East Kentucky Power Cooperative, Inc. Hugh L. Spurlock Generating Station in Maysville, Kentucky

I.D. No. 735057950

Revised Permit No. 735057950-P10

Proposed by the Kentucky Environmental Protection Cabinet Department for Environmental Protection Division for Air Quality on June 12, 2006.

CERTIFICATE OF SERVICE

STATE OF WISCONSIN)
) ss
COUNTY OF DANE)

I make this statement under oath and based on personal knowledge. On this day I caused to be served upon the following persons a copy of Sierra Club's Petition to the United States Environmental Protection Agency In the Matter of the Proposed Revised Operating Permit for the East Kentucky Power Cooperative, Inc. Hugh L. Spurlock Generating Station in Maysville, Kentucky, via Certified Mail, Return Receipt Requested:

Stephen L. Johnson
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1301 West 2nd Street
Maysville, KY 41056

Dated : August 15, 2006

Laura Boyd

Signed and sworn to before me
This 15th day of August, 2006.

Notary Public, State of Wisconsin
My commission is permanent.