IN RE PRAIRIE STATE GENERATING COMPANY

PSD Appeal No. 05-05

ORDER DENYING REVIEW

Decided August 24, 2006

Syllabus

The American Bottom Conservancy, American Lung Association of Metropolitan Chicago, Clean Air Task Force, Health and Environmental Justice-St. Louis, Lake County Conservation Alliance, Sierra Club and Valley Watch (collectively, "Petitioners") request review of a prevention of significant deterioration ("PSD") permit ("Permit") that the Illinois Environmental Protection Agency ("IEPA") issued to Prairie State Generating Company, LLC ("Prairie State") authorizing the construction of the Prairie State Generating Station (the "Facility"), which is a proposed 1500-megawatt ("MW") pulverized coal-fuel powered electricity generating plant. The Facility would be located at the mouth of a new underground coal mine, also developed by Prairie State, which would provide the principal source of coal fuel used at the Facility.

Petitioners raise concerns with IEPA's determinations of the "best available control technology" emissions limits ("BACT") for sulfur dioxide ("SO_2"), nitrogen oxides ("NO_X"), and particulate matter ("PM"). For the most part, Petitioners do not take exception to the technology specified by IEPA for pollutant emissions control, although Petitioners do raise issues with each step of the five-step BACT analyses for several pollutants performed by IEPA. Petitioners raise procedural and substantive objections to IEPA's BACT analyses, beginning with what appears to be their principal concern: the proposed fuel source, relatively high-sulfur Illinois coal from the mine that will be co-located with the electric generating plant. Petitioners also take issue with the permit's resulting numeric emission limits. Petitioners additionally contest IEPA's analysis of the Facility's air quality impacts, contend that a review of environmental impacts under NEPA was warranted, and argue that IEPA violated environmental justice obligations.

Held: Review is denied. Petitioners have not met their burden of demonstrating that IEPA's determinations are either factually or legally "clearly erroneous" or otherwise warrant review.

- The Board rejects Petitioners' argument that IEPA improperly excluded low-sulfur coal from its BACT analysis as a method for controlling emissions of SO_2 from the proposed Facility. The statute contemplates that the permit issuer must look to the permit applicant to define the proposed facility's purpose or basic design in its application, at least where that purpose or design is objectively discernable, as it is in the present case. This approach not only harmonizes the BACT definition with the permit application process in which the definition must be applied, but also is consistent with the Agency's long-standing policy against redefining the proposed facility. In concluding that compelling use of low-sulfur coal would redefine the proposed Fa-

cility's basic design or purpose, IEPA properly considered Prairie State's objectives for the proposed Facility and concluded that the use of a particular 30-year coal supply under common ownership and control is an inherent aspect of the proposed project. The Board is satisfied that IEPA took a sufficiently hard look at the Facility to determine whether further emissions reductions would be achievable while still meeting Prairie State's purpose.

- The Board rejects Petitioners' argument that IEPA erred as a matter of law when it found that Integrated Gasification Combined Cycle ("IGCC") is a potentially applicable process alternative for controlling SO_2 and NO_X, but nevertheless excluded IGCC at step 2 of the top-down method. Although Agency guidance generally counsels in favor of a full and detailed impacts analysis at step 4 for each control alternative found to be technically feasible at step 2, there is one narrow exception. A full analysis is not required where there are two or more alternatives with comparable control efficiencies and one is more costly than the other. IEPA's rationale in the present case for rejecting full evaluation of IGCC as a more costly, comparably efficient option falls within this guidance.

- The Board finds no clear error in IEPA's decision not to include coal washing as a supplemental control method (for possible further reduction of SO_2 emissions). Petitioners have not shown clear error in IEPA's central conclusion that any benefits of coal washing are outweighed by coal washing's cost, energy, and environmental impacts.

- Although IEPA's analysis of dry cooling as an alternative method for controlling PM emissions from the cooling towers is less than optimal (IEPA's narrative analysis is less than ordinarily expected of a full step 4 impacts analysis), Petitioners have not taken the additional step that they are required to take, which is to put before the Board evidence that the facts are contrary to the reasoning stated in IEPA's narrative analysis.

- The Board rejects Petitioners contention that IEPA failed to provide notice to the public and to adequately consider the Petitioners' concern that the Facility's anticipated use of approximately one million tons of limestone per year to run the SO_2 controls may destroy habitat of the Eastern Narrow Mouth Toad if the limestone is mined from the toad's habitat. IEPA's reliance on the Illinois Department of Natural Resources' biological opinion, and IEPA's ultimate conclusion that the proposed technology does not pose a "significant or unusual environmental impact," is supported by the facts in the record and does not constitute clear error. The Board also concludes that the information that became available to IEPA after the close of public comment did not raise substantial new questions that warrant a reopening of the comment period, and the Board finds no error in IEPA's failure to do so.

- Petitioners' argument that IEPA did not consider available variations in the technology selected for control of SO_2 is rejected – IEPA did in fact consider technological variations and related performance data. The Board also rejects Petitioners' argument that IEPA clearly erred by failing to perform a separate BACT analysis for sulfuric acid mist distinct from the BACT analysis for SO_2 emissions. Petitioners have failed to point to evidence of error in the permitting authority's analytic methodology, which is the kind of technical determination with respect to which the Board ordinarily defers to the permitting authority.

- The Board rejects Petitioners' contention that IEPA should have "updated" its NO_X BACT determination to take into account new information submitted after the close of public comment. The regulations governing the administrative record generally do not require the issuer of an EPA permit to supplement the record with information submitted by the public after the close of the public comment period. Although there are circumstances in which significant new information that becomes available following the close of public comment appropriately should be considered in finalizing a permit's terms, Petitioners have not demonstrated how the post-comment period information upon which they rely is sufficiently significant to call into question IEPA's permit limit. IEPA did consider, prior to issuing its decision, information substantially similar to the new information upon which Petitioners rely.

- The Board rejects Petitioners' contention that IEPA provided no record justification for the use of a safety factor in setting the PM and NO_X emissions limits. IEPA specifically identified variability in the data as a reason for its use of a safety factor in setting the emissions limits.

- The Board rejects Petitioners's contention that the total PM_{10} limit was not established through a BACT top-down analysis. The pollutant at issue is particulate matter. PM_{10} is not a separate pollutant; instead, it is merely an indicator for PM and consists of two constituent parts: condensable and filterable PM_{10}. It is beyond dispute that IEPA performed a top-down BACT analysis for PM, which included the available and applicable control methods for the filterable and condensable components of PM_{10}.

- The Board rejects Petitioners' objection that the Permit's conditions providing for downward adjustment to the total PM_{10} limit after analysis of the Facility's actual performance violates PSD permitting requirements. IEPA specifically concluded that there is scientific uncertainty about whether the PM_{10} emission limit can be achieved in practice. Under these circumstances, the use of an adjustable limit, constrained by certain parameters, and backed by a worst case air quality analysis, is a reasonable approach.

- Contrary to Petitioners' contentions, the Permit does not provide an exemption from numeric emissions limits for emissions of filterable PM, total PM_{10}, volatile organic matter, sulfuric acid mist, and fluorides from all BACT limits during periods of startup, shutdown and malfunction. The Permit specifically establishes "secondary limits," which are also numeric limits, for these pollutants "for purposes of BACT." These secondary BACT limits were derived directly from the primary heat input BACT limits and do not authorize emissions greater than the primary limits would allow at the units' rated heat input capacity.

- The Board rejects Petitioners' request for review of IEPA's surrogate approach to analyzing the Facility's compliance with the new National Ambient Air Quality Standards ("NAAQS") for ozone stated as an 8-hour standard and to the new NAAQS for PM stated as $PM_{2.5}$ standards. IEPA did precisely what Appendix W (40 C.F.R. pt. 51, App. W §§ 6.2.1(c), 6.2.2.1(c)) recommends for determining compliance with the 8-hour ozone and $PM_{2.5}$ NAAQS. IEPA followed Region 5's and EPA's guidance regarding the "most suitable approach" to be used on a case-by-case basis, which was to use the 1-hour ozone and PM_{10} modeling as a surrogate.

- The Board also rejects Petitioners argument that IEPA improperly disregarded projected violations of the NAAQS for SO_2 and PM_{10} based on a "culpability" analysis

that excluded violations falling below certain significant impact levels ("SILs"). IEPA's exclusion of de minimis impacts falling below the SILs is consistent with the statutory text and with longstanding Agency guidance.

- The Board rejects Petitioners's argument that IEPA failed to adequately notify the public of the adverse impact finding made by the federal land manager ("FLM") responsible for the Mingo Class I area. Where the permit issuer provides notice to the FLM that complies with 40 C.F.R. § 52.21(p)(1) and the FLM does not make an adverse impact determination and provide such determination to the permit issuer in the time frame specified in 40 C.F.R. § 52.21(p)(3), the regulations do not require the permit issuer to subsequently provide a new notice to the public when the FLM issues a later adverse impact finding.

- The Board finds that the delegation of authority to IEPA to issue federal PSD permits does not provide an exception from the obligation to coordinate PSD review with review under the National Environmental Policy Act, 42 U.S.C. §§ 4321-4370e ("NEPA"). The Board holds that a state permitting agency exercising delegated authority has sufficiently coordinated when the agency concludes that any ongoing NEPA review does not pertain to the portions of the facility subject to PSD regulation.

- Executive Order 12898 instructs federal agencies to address, as appropriate, "disproportionately high and adverse human health or environmental effects of [their] programs, policies, and activities on minority and low-income populations * * *." Environmental justice issues must be considered in connection with the issuance of PSD permits by both the Regions and states acting under delegated authority. The Board rejects Petitioners contention that IEPA failed to adequately consider the environmental justice issues raised during the public comment period, including the comments regarding whether the proposed Facility would have a disproportionate impact on residents of East St. Louis.

Before Environmental Appeals Judges Scott C. Fulton, Edward E. Reich, and Anna L. Wolgast.

Opinion of the Board by Judge Wolgast:

On June 8, 2005, the American Bottom Conservancy, American Lung Association of Metropolitan Chicago, Clean Air Task Force, Health and Environmental Justice-St. Louis, Lake County Conservation Alliance, Sierra Club and Valley Watch (collectively, "Petitioners") filed a petition requesting that the Environmental Appeals Board ("Board") grant review of certain conditions of a prevention of significant deterioration ("PSD") permit, Permit No. 189808AAB (the "Permit"). The Illinois Environmental Protection Agency ("IEPA")[1] issued the Permit to

[1] IEPA administers the PSD program in Illinois pursuant to a delegation of authority from U.S. EPA Region 5 (the "Region"). *See Delegation of Authority to State Agencies*, 46 Fed. Reg. 9580 (Jan. 29, 1981); *In re Zion Energy, LLC*, 9 E.A.D. 701, 701 n. 1 (EAB 2001). Permits issued by states acting with delegated authority are considered EPA-issued permits. *In re SEI Birchwood, Inc.*, 5 E.A.D. 25,
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Prairie State Generating Company, LLC ("Prairie State"). The Permit would authorize Prairie State to construct the Prairie State Generating Station (the "Facility"), which is a proposed 1500-megawatt ("MW") coal-fuel powered electricity generating plant to be located in Washington County, Illinois, approximately five miles east north-east of Marissa.

For the reasons explained below, we deny Petitioners' request that we undertake review of the Permit's conditions.

I. *BACKGROUND*

A. *Project Description*

The proposed Facility consists of two coal-fired steam electric generating units, each with a nominal generating capacity of 750 net megawatts. Project Summary at 1. Each unit includes a coal-fired boiler with a nominal rated heat input capacity of approximately 7450 million Btu/hr ("MMBtu"). *Id.* The fuel will be supplied as pulverized coal (i.e., coal ground to a fine powder immediately before being blown, along with the combustion air, into the boiler). *Id.* "The principal fuel for the boilers will be Illinois coal (Herrin No. 6)." *Id.* The Facility would be located at the mouth of a new underground coal mine, which will be the principal source of coal fuel used at the Facility. *Id.*

B. *Statutory and Regulatory Background*

Congress enacted the PSD provisions of the Clean Air Act ("CAA") in 1977 for the purpose of, among other things, "insur[ing] that economic growth will occur in a manner consistent with the preservation of existing clean air resources." CAA § 160(3), 42 U.S.C. § 7470(3). The statute requires preconstruction approval in the form of a PSD permit before anyone may build a new major stationary source of air pollutants or make a major modification to an existing source if such source is located in either an "attainment" or "unclassifiable" area. CAA §§ 107, 160-169B, 42 U.S.C. §§ 7407, 7470-7492. The PSD permitting program regulates air pollution in "attainment" areas, where air quality meets or is cleaner than the

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26 (EAB 1994); *see also In re Hadson Power 14-Buena Vista*, 4 E.A.D. 258, 259 (EAB 1992). Because IEPA acts as EPA's delegate in implementing the federal PSD program within the State of Illinois, the Permit is considered an EPA-issued permit for purposes of federal law, and is subject to review by the Board pursuant to 40 C.F.R. § 124.19. *See In re Hillman Power Co., LLC*, 10 E.A.D. 673, 675 (EAB 2002); *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 40 n.1 (EAB 2001); *In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 109 n.1 (EAB 1997); *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764, 765 n.1 (EAB 1997); *In re W. Suburban Recycling & Energy Ctr., LP*, 6 E.A.D. 692, 695 n.4 (EAB 1996).

national ambient air quality standards ("NAAQS"), as well as areas that cannot be classified as "attainment" or "non-attainment" (i.e., "unclassifiable" areas). *Id.*; *see also In re EcoEléctrica, L.P.*, 7 E.A.D. 56, 59 (EAB 1997); *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764, 766-67 (EAB 1997).

The NAAQS are "maximum concentration 'ceilings'" for particular pollutants, "measured in terms of the total concentration of a pollutant in the atmosphere." U.S. EPA Office of Air Quality Planning & Standards, *New Source Review Workshop Manual* at C.3 (Oct. 1990) (Draft) ["NSR Manual"].[2] The PSD permitting requirements are pollutant-specific, which means that a facility may emit many air pollutants, but only one or a few may be subject to PSD review, depending upon a number of factors including the amount of emissions of each pollutant by the facility. NSR Manual at 4. NAAQS have been set for six criteria pollutants: sulfur oxides,[3] particulate matter ("PM"),[4] nitrogen dioxide ("NO_2"),[5] carbon monoxide ("CO"), ozone,[6] and lead. *See* 40 C.F.R. §§ 50.4-50.12. Prairie State's proposed Facility will be located in Washington County, Illinois, which is located in an area designated attainment for meeting the NAAQS for SO_2 and either attainment or unclassifiable for particulate matter (measured as PM_{10}), CO, ozone (1-hour standard), and NO_2. 40 C.F.R. § 81.314.

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[2] The NSR Manual has been used as a guidance document in conjunction with new source review workshops and training, and as a guide for state and federal permitting officials with respect to PSD requirements and policy. Although it is not a binding Agency regulation, the NSR Manual has been looked to by this Board as a statement of the Agency's thinking on certain PSD issues. *E.g., In re RockGen Energy Ctr.*, 8 E.A.D. 536, 542 n.10 (EAB 1999), *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 129 n.13 (EAB 1999).

[3] Sulfur oxides are measured as sulfur dioxide (SO_2). 40 C.F.R. § 50.4(c).

[4] "Particulate matter, or 'PM' is 'the generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes.'" *In re Steel Dynamics*, 9 E.A.D. 165, 181 (EAB 2000) (quoting 62 Fed. Reg. 38,652, 38,653 (July 18, 1997)). For purposes of determining attainment of the NAAQS, particulate matter is measured in the ambient air as particulate matter with an aerodynamic diameter of 10 micrometers or less, referred to as PM_{10}. 40 C.F.R. § 50.6(c).

[5] A facility's compliance with respect to nitrogen dioxide is measured in terms of emissions of any nitrogen oxides (NO_X). 40 C.F.R. § 52.21(b)(23); *In re Haw. Elec. Light Co.*, 8 E.A.D. 66, 69 n.4 (EAB 1998). The term nitrogen oxides refers to a family of compounds of nitrogen and oxygen. The principal nitrogen oxides component present in the atmosphere at any time is nitrogen dioxides. Combustion sources emit mostly nitric oxide, with some nitrogen dioxides. Composition sources emit mostly nitric oxide, with some nitrogen dioxide. Upon entering the atmosphere, the nitric oxide changes rapidly, mostly to nitrogen dioxide. *Alaska Dept. of Envtl. Conservation v. EPA*, 540 U.S. 461, 470 n.1 (2004) (quoting EPA, Preservation of Significant Deterioration for Nitrogen Oxides, 53 Fed. Reg. 40,656, 40,656 (Oct. 17, 1988)).

[6] A facility's compliance with respect to ozone is measured in terms of emissions of volatile organic compounds ("VOCs"). 40 C.F.R. § 52.21(b)(23).

In attainment or unclassifiable areas, the PSD regulations require that new major stationary sources, such as Prairie State's proposed Facility, employ the "best available control technology," or "BACT,"[7] to control emissions of regulated pollutants that the source would have the potential to emit in significant amounts. CAA § 165(a)(4), 42 U.S.C. § 7475(a)(4); 40 C.F.R. § 52.21(j)(2). Determination of BACT for control of pollutant emissions is one of the central features of the PSD program. *In re BP West Coast Prods. LLC, Cherry Point Co-Generation Facility*, 12 E.A.D. 209, 213-14 (EAB 2005); *In re Knauf Fiberglass, GmbH*, 8 E.A.D. 121, 123-24 (EAB 1999).

Prairie State's proposed Facility is one of the source types listed as regulated in 40 C.F.R. § 52.21(b)(1)(I), and it has the potential to emit PM, SO_2, and NO_X, among other pollutants, in amounts exceeding 100 tons per year. Accordingly, the Facility will be a new "major stationary source" of regulated pollutant emissions within the meaning of the PSD regulations. Project Summary at 3; *see also* PSD Permit Application at 3-2 (Oct. 11, 2002). The Facility will also emit PM, SO_2, and NO_X, among other pollutants, in amounts qualifying as "significant" under 40 C.F.R. § 52.21(b)(23)(I). Project Summary at 3; *see also* PSD Permit Application at 3-2 (Oct. 11, 2002). As such, Prairie State is required to comply with the BACT emissions limitations that are set based on the best available technology for controlling emissions of these pollutants. The Petitioners challenge, among other things, IEPA's BACT determination for controlling emissions of SO_2, PM and NO_X at the proposed Facility.

The PSD regulations also require the permit issuer to review new major stationary sources prior to construction to ensure that emissions from such facilities will not cause or contribute to an exceedance of either the NAAQS or any applicable PSD ambient air quality "increments." CAA § 165(a)(3), 42 U.S.C. § 7475(a)(3); 40 C.F.R. §§ 52.21(k)-(m). Air quality increments represent the maximum allowable increase in a particular pollutant's concentration that may occur above a baseline ambient air concentration for that pollutant. *See* 40 C.F.R. § 52.21(c) (increments for six regulated air pollutants). The performance of an

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[7] BACT is defined by the statute in relevant part as follows:

> The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter 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 each such pollutant.

CAA § 169(3); 42 U.S.C. § 7479(3); *see also* 40 C.F.R. § 52.21(b)(12).

ambient air quality and source impact analysis, pursuant to the regulatory requirements of 40 C.F.R. § 52.21(k), (l) and (m), as part of the PSD permit review process, is the central means for preconstruction determination of whether the source will cause an exceedance of the NAAQS or PSD increments. *See Haw. Elec. Light*, 8 E.A.D. at 73. In the present case, Petitioners argue that the air quality and source impacts analysis failed to consider the proposed Facility's impact on compliance with the 8-hour ozone NAAQS, contained an erroneous analysis of the impact on the 1-hour ozone NAAQS, and demonstrated that the proposed Facility will violate the SO_2 and PM_{10} NAAQS.

C. *Procedural Background*

On October 19, 2002, Prairie State submitted its application for a PSD permit that would authorize Prairie State to begin construction of the proposed Facility.[8] In February 2004, IEPA issued a draft permit, along with a project summary and provided notice to the public inviting comment on the draft permit between February 6, 2004, and April 21, 2004. The public comment period was subsequently extended through August 27, 2004. IEPA also held a public hearing on March 22, 2004, at which Petitioners' representatives testified. *See* Transcript of Hearing at 2 (Mar. 22, 2004). Petitioners also submitted extensive written comments on the draft permit. *See* Letter from Robert Ukeiley, Counsel for Sierra Club, Clean Air Task Force, and Lake County Conservation Alliance, to Charles E. Matoesian, IEPA Hearing Officer (June 17, 2004); Comments by Dr. J. Phyllis Fox on behalf of Sierra Club (June 21, 2004); Memorandum from Brian Urbeszewski, American Lung Association, et al., to IEPA Hearing Examiner (Aug. 23, 2004); Letter from John Thompson, Clean Air Task Force, to Charles Matoesian, IEPA Hearing Officer (Aug. 26, 2004); Letter from John Blair, President Valley Watch, to IEPA Hearing Officer (July 26, 2004); Letter from Dr. J. Phyllis Fox, on behalf of Sierra Club, to Shashi Shaw, IEPA (Aug. 26, 2004).

On January 21, 2005, IEPA notified the public that it had issued its permit decision. Although IEPA gave notice to the public on January 21, 2005, it had actually issued the permit decision on January 14, 2005. However, IEPA did not issue its response to comments until January 21, 2005, seven days after the date of its permit decision.

Petitioners appealed IEPA's January 14, 2005 permitting decision, and on March 25, 2005, we issued an order vacating and remanding IEPA's permitting decision. *In re Prairie State Generation Station*, 12 E.A.D. 176 (EAB 2005). By our March 25 order, we concluded that IEPA violated the requirements of 40 C.F.R. §§ 124.17 and 124.18, which require that the response to comments be

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[8] Although Prairie State submitted its application to IEPA on October 19, 2002, the application is dated October 11, 2002.

part of the administrative record and that the permitting decision be based on the administrative record. We directed IEPA to reconsider its decision after considering both the public comments and IEPA's response to comments. *Id.* at 7.

On April 28, 2005, IEPA issued the permitting decision that is the subject of the present petition for review. On the same day, April 28, 2005, IEPA issued a revised response to the comments received from the public. *See* Responsiveness Summary for Public Questions and Comments on the Construction Permit Application from Prairie State Generating Company (Apr. 28, 2005) [hereinafter "Response to Comments"]. The Permit establishes the following BACT emissions limits, among other conditions, for pollutants emitted by the coal-fired boilers:

> 1) SO_2 emissions may not exceed 0.182 lb/MMBtu based on a 30-day rolling average, and an emissions control efficiency of 98% based on a rolling 12-month average, Permit at 16, ¶ 2.1.2.b.ii;
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> 2) NO_X emissions may not exceed 0.07 lb/MMBtu based on a 30-day rolling average, Permit at 16, ¶ 2.1.2.b.iii;
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> 3) filterable PM emissions may not exceed 0.015 lb/MMBtu based on a 3-hour block average, and filterable and condensable PM_{10} emissions may not exceed 0.035 lb/MMBtu based on a 3-hour block average, Permit at 15, ¶ 2.1.2.b.i.

IEPA based the BACT emissions limits for SO_2 on IEPA's determination that wet flue gas desulfurization ("WFGD") is the appropriate control technology for Prairie State's Facility. Permit at 7; Project Summary at 7-9. IEPA based the BACT emissions limit for NO_X on IEPA's determination that selective catalytic reduction ("SCR") and low-NO_X burners are together the appropriate control technologies. Permit at 7; Project Summary at 5-7. IEPA based the BACT emissions limit for PM emissions from the Facility's coal-fired boilers on IEPA's determination that high-efficiency electrostatic precipitators ("ESP") are the appropriate technology for controlling filterable PM, and that condensable PM_{10} will be controlled by wet electrostatic precipitators ("WESP") applied after the WFGD system. Permit at 7; Project Summary at 10-11. IEPA also selected emissions limits reflecting use of wet cooling towers with high efficiency drift eliminators as the appropriate technology for control of PM emissions from the cooling towers. Permit at 7; Response to Comments at 110-12.

Petitioners timely filed their 112-page petition requesting that this Board grant review of IEPA's April 28, 2005 permitting decision. *See* Petition for Review (June 8, 2005) [hereinafter "Petition"]. IEPA filed a 339-page response to Petitioners' Petition. *See* Response to Petition (July 28, 2005) [hereinafter "IEPA

Response"]. Prairie State also requested and was granted leave to file a 210-page response to the Petition. *See* Intervener Prairie State Generating Company, LLC's Brief in Response to Petition (July 29, 2005) [hereinafter "Prairie State's Response"]. Petitioners filed a reply to the responses of IEPA and Prairie State. *See* Petitioners' Reply (Sept. 15, 2005). By order dated December 12, 2005, the Board requested that U.S. Environmental Protection Agency, Region 5 and the Agency's Office of General Counsel jointly submit a brief addressing IEPA's rationale for rejecting low-sulfur coal as a potential method for controlling SO_2 emissions in establishing the BACT limits and IEPA's rationale for rejecting consideration of certain other alternatives to the proposed Facility. In January 2006, Region 5 and the Office of General Counsel jointly moved for an extension of time to respond to the Board's request for briefing. *See* Request for Extension of Time to File Response to Board's December 12, 2005 Order. In that motion, Region 5 and OGC stated that the Board's order raised "questions of nationwide significance that are currently under review in the Office of Air and Radiation, in consultation with OGC and the Regional Offices." *Id.* at 2. The Agency's Office of Air and Radiation, represented by the Agency's Office of General Counsel, and Region 5 jointly submitted their brief addressing those matters on March 7, 2006. Petitioners filed a response on March 30, 2006.

D. *Standard of Review*

The Board's review of PSD permitting decisions is governed by 40 C.F.R. part 124, which "provides the yardstick against which the Board must measure" petitions for review of PSD and other permit decisions. *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764, 769 (EAB 1997)(quoting *In re Envotech, L.P.*, 6 E.A.D. 260, 265 (EAB 1996)). Pursuant to those regulations, a permitting authority's decision to issue a PSD permit will ordinarily not be reviewed unless the decision is 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. 40 C.F.R. § 124.19(a); *accord, e.g.*, *In re Zion Energy, LLC*, 9 E.A.D. 701, 705 (EAB 2001); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 126-27 (EAB 1999); *Commonwealth Chesapeake*, 6 E.A.D. at 769. The Agency stated in the Federal Register preamble to the part 124 regulations that the power of review "should be only sparingly exercised," and that "most permit conditions should be finally determined at the [permit issuer's] level * * * ." 45 Fed. Reg. 33,290, 33,412 (May 19, 1980); *accord In re Cardinal FG Co.*, 12 E.A.D. 153, 160 (EAB 2005); *In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 114 (EAB 1997).

The burden of demonstrating that review is warranted rests with the petitioner challenging the permit decision. 40 C.F.R. § 124.19(a); *accord, e.g., Kawaihae Cogeneration*, 7 E.A.D. at 114; *In re EcoEléctrica L.P.*, 7 E.A.D. 56, 61 (EAB 1997); *Commonwealth Chesapeake*, 6 E.A.D. at 769. We have explained that in order to establish that review of a permit is warranted, section

124.19(a) requires that a petitioner both state the objections to the permit that are being raised and explain why the permit decision maker's previous response to those objections (i.e., the decision maker's basis for the decision) is clearly erroneous or otherwise warrants review. *See Kawaihae Cogeneration*, 7 E.A.D. at 114; *see also In re P.R. Elec. Power Auth.*, 6 E.A.D. 253, 255 (EAB 1995); *In re Genesee Power Station L.P.*, 4 E.A.D. 832, 866-67 (EAB 1993). It is not enough simply to repeat objections made during the comment period. *E.g., Zion Energy*, 9 E.A.D. at 705; *Knauf Fiber Glass*, 8 E.A.D. at 127.

II. *DISCUSSION*

Petitioners raise numerous objections to the terms of the IEPA-issued PSD permit for Prairie State's coal-fired utility to be located in Washington County, Illinois. The majority of Petitioners' arguments raise concerns with IEPA's determinations of the "best available control technology" ("BACT") for reduction of emissions of the Facility's regulated pollutants, including SO_2, NO_X and PM. For the most part, Petitioners do not take exception to the technology specified by IEPA for the control of the Facility's regulated pollutants. However, Petitioners do raise procedural and substantive objections to IEPA's BACT analyses, beginning with what appears to be their principal concern: the proposed fuel source, local Illinois coal. Petitioners also take issue with the permit's resulting numeric emission limits for regulated pollutants. Apart from Petitioners' concerns about IEPA's BACT determinations, they additionally contest IEPA's analysis of the Facility's air quality impacts, contend that a review of environmental impacts under NEPA was warranted, and argue that IEPA violated environmental justice obligations.

For the reasons stated below, we conclude that Petitioners have not met their burden in demonstrating that IEPA's determinations are either factually or legally "clearly erroneous," and therefore deny review. 40 C.F.R. § 124.19(a); *accord*, *In re Zion Energy, LLC*, 9 E.A.D. 701, 705 (EAB 2001). We begin our analysis by addressing the bulk of Petitioners' concerns, those involving IEPA's BACT analyses.

A. *Summary of the "Top-Down" BACT Analysis*

The Clean Air Act and the PSD regulations require, as noted above, that new major stationary sources and major modifications of such sources employ the "best available control technology," or BACT, to minimize emissions of regulated pollutants. 42 U.S.C. § 7475(a)(4); 40 C.F.R. § 52.21(j)(2). Petitioners argue that IEPA made numerous errors in setting the Permit's BACT limits for controlling emissions of NO_X, SO_2, and PM.

As we explain below, IEPA employed the recommended top-down method for determining BACT limits, which employs a five-step analysis. Because a number of the pollutant control technologies at issue in this case are potentially applicable to control emissions of several pollutants, we have organized our analysis of Petitioners' arguments corresponding to the five steps of the top-down method. We begin with a brief background summary of the top-down method and then proceed to discuss all issues raised at step 1, followed by the issues Petitioners raise at step 2, and so forth.

BACT is a site-specific determination resulting in the selection of an emission limitation that represents application of control technology or methods appropriate for the particular facility. *In re Cardinal FG Co.*, 12 E.A.D. 153, 161 (EAB 2005); *In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 47 (EAB 2001); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 128-29 (EAB 1999); *see also In re CertainTeed Corp.*, 1 E.A.D. 743, 747 (Adm'r 1982) ("It is readily apparent * * * that * * * BACT determinations are tailor-made for each pollutant emitting facility."). BACT is defined by the statute in relevant part as follows:

> The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter 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 each such pollutant.

CAA § 169(3), 42 U.S.C. § 7479(3).[9]

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[9] The definition set forth in the regulations is nearly identical:

> *Best available control technology* means an emissions limitation * * * based on the maximum degree of reduction for each pollutant * * * which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

40 C.F.R. § 52.21(b)(12).

In the present case, IEPA followed the NSR Manual's guidance for determining BACT using an approach known as the "top-down" method. Project Summary at 5. "The NSR Manual is not a binding Agency regulation and, as such, strict application of the methodology described in the NSR Manual is not mandatory." *In re Cardinal FG Co.*, 12 E.A.D. 153, 162 (EAB 2005). "However, a careful and detailed analysis of the criteria identified in the regulatory definition of BACT is required, and the methodology described in the NSR Manual provides a framework that assures adequate consideration of the regulatory criteria and consistency within the PSD permitting program." *Id.*; *see also In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 183 (EAB 2000) ("This top-down analysis is not a mandatory methodology, but it is frequently used by permitting authorities to ensure that a defensible BACT determination, involving consideration of all requisite statutory and regulatory criteria, is reached."). The NSR Manual summarizes the top-down method for determining BACT as follows:

> The top-down process provides that all available control technologies be ranked in descending order of control effectiveness. The PSD applicant first examines the most stringent – or "top" – alternative. That alternative is established as BACT unless the applicant demonstrates, and the permitting authority in its informed judgment agrees, that technical considerations, or energy, environmental, or economic impacts justify a conclusion that the most stringent technology is not "achievable" in that case.

NSR Manual at B.2; *see also In re Haw. Elec. Light Co.*, 8 E.A.D. 66, 84-92 (EAB 1998).

The NSR Manual's recommended top-down analysis employs a five-step analysis. The first step requires the permitting authority to identify all "potentially" available control options. NSR Manual at B.5. Available control options are those technologies, including the application of production processes or innovative technologies, "that have a practical potential for application to the emissions unit and the regulated pollutant under evaluation." *Id.*

The second step is to eliminate "technically infeasible" options from the potentially available options identified at step 1. NSR Manual at B.7. This second step involves first determining for each technology whether it is "demonstrated," which means that it has been installed and operated successfully elsewhere on a similar facility, and if not demonstrated, then whether it is both "available" and "applicable." Technologies identified in step 1 as "potentially" available, but that are neither demonstrated nor found after careful review to be both available and applicable, are eliminated under step 2 from further analysis. *Id.*

In step 3 of the top-down method, the remaining control technologies are ranked and then listed in order of control effectiveness for the pollutant under review, with the most effective alternative at the top. *Id.* A step 3 analysis includes making determinations about comparative control efficiency among control techniques employing different emission performance levels and different units of measure of their effectiveness. *Id*. at B.22-25.

In the fourth step of the analysis, the energy, environmental, and economic impacts are considered and the top alternative is either confirmed as appropriate or is determined to be inappropriate. *Id.* at B.29. Issues regarding the cost effectiveness of the alternative technologies are considered under step 4. *Id*. at B.31-.46. The purpose of step 4 of the analysis is to validate the suitability of the top control option identified, or provide a clear justification as to why the top control option should not be selected as BACT. *Id*. at B.26.

Finally, under step 5, the most effective control alternative not eliminated in step 4 is selected and the permit issuer sets as BACT an emissions limit for a specific pollutant that is appropriate for the selected control method. *Id.* at B.53; *see also In re Hillman Power Co.*, 10 E.A.D. 673, 677 (EAB 2002); *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 42 n.3 (EAB 2001).

B. *The Permit's BACT Limits for NO_X, SO_2 and PM*

Petitioners contend that IEPA made numerous errors in setting the BACT limits for controlling emissions of NO_X, SO_2 and PM. Specifically, Petitioners question at BACT step 1 whether IEPA improperly excluded low-sulfur coal from the BACT analysis as a method for controlling SO_2 emissions. As part of our discussion of this issue, we also consider the related argument regarding whether IEPA erred in rejecting a detailed consideration of "alternatives" to Prairie State's proposed Facility. At step 2, Petitioners argue that IEPA clearly erred by rejecting Integrated Gasification Combined Cycle as a method for controlling SO_2 and NO_X emissions without a detailed step 4 analysis. Petitioners have not raised any issues arising at step 3 of the top-down method. At step 4, Petitioners argue that IEPA improperly rejected the use of coal washing as an additional method for controlling SO_2, NO_X and PM emissions. Finally, at step 5, Petitioners argue that IEPA erred in establishing the numeric BACT limits appropriate for the technologies selected to control emissions of SO_2, NO_X and PM. We address each of Petitioners' arguments below.

1. *BACT Step 1: Identifying Potentially Available Control Options (Low-Sulfur Coal); and the Authority to Consider "Alternatives" that Redefine the Source*

Petitioners argue that IEPA improperly rejected consideration of low-sulfur coal as a method for controlling emissions of SO_2 from the proposed Facility.

Petitioners state that IEPA improperly treated low-sulfur coal as "redefining" the Facility proposed by Prairie State and that IEPA's rationale violates the statutory requirement to consider "clean fuels." Petition at 33. Petitioners also argue that IEPA improperly rejected consideration of "alternatives" to the Facility proposed by Prairie State, including alternative power sources such as wind or solar power and natural gas or low-sulfur fuel, and the alternative of limiting the Facility's size or prohibiting construction of the Facility.

a. *BACT Step 1 Analysis of Low-Sulfur Coal*

In the first step of the NSR Manual's five-step top-down method for determining BACT, the permitting authority must confirm that the applicant has identified "all control options with potential application." NSR Manual at B.5. An incomplete BACT analysis, including failure to consider all potentially applicable control alternatives, constitutes clear error and, therefore, is grounds for remand. *In re Knauf Fiber Glass, GmbH,* 8 E.A.D. 121, 142 (EAB 1999); *In re Masonite Corp.,* 5 E.A.D. 551, 568-69, 72 (EAB 1994); *In re Brooklyn Navy Yard Res. Recovery Facility,* 3 E.A.D. 867, 875 (Adm'r 1992).

In the present case, Petitioners argue that IEPA's BACT determination is fatally flawed because it did not identify in the first step, and therefore improperly excluded from BACT consideration, several control alternatives that Petitioners contend are "potentially" applicable to Prairie State's proposed Facility. Petitioners argue, among other things,[10] that IEPA improperly excluded low-sulfur coal from the BACT analysis as an additional SO_2 control alternative that may be used in combination with the add-on controls proposed by Prairie State.[11] Petition at 31-32. According to Petitioners, the record shows that if Prairie State "were to use low-sulfur coal, it could achieve an SO_2 emission limit as low as 0.05 to 0.06 lb/MMBtu." *Id.* at 32. In contrast, the Permit would limit SO_2 emissions to 0.182 lb/MMBtu.[12] Permit ¶ 2.1.2(b)(ii).

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[10] Petitioners also argue that IEPA failed to consider as separate and distinct control alternatives the following: magnesium-enhanced lime scrubbers, the Chiyoda CT-121 bubbling jet reactor, and certain specified scrubber design enhancements. Petition at 56-58. IEPA's response to comments, however, demonstrates that these "scrubbing" methods share the same fundamental control process and are not sufficiently distinct to warrant separation analysis throughout the BACT review. *See* Response to Comments at 49 ("The fundamental issues for wet srubbers is setting the SO_2 emission rate of level of control efficiency that a scrubber must be designed to achieve."). Petitioners have not demonstrated clear error in this response to comments and, accordingly, we will consider issues relative to these scrubber technology variations at step 5 where IEPA considered the appropriate numeric emissions limit applicable to the selected control process.

[11] This issue was raised in the public comments. Response to Comments at 23-26.

[12] Under the Permit's limit, the total potential SO_2 emissions would be 11,866 tons per year. Calculation Sheet at 1.

IEPA acknowledged that "the high sulfur content of the design coal results in an SO_2 emission rate that is substantially higher than that of power plants that are designed to use a coal supply with a low or very low sulfur content." Calculation Sheet at 5. Nevertheless, IEPA has consistently articulated its view that requiring Prairie State to use low-sulfur coal would "redefine" the project, and that it cannot require Prairie State to build a project different from the one Prairie State has proposed.

Prior to the public comment period, IEPA explained its reasoning as follows:

> With respect to alternate sources of coal, e.g., low-sulfur western coal from Wyoming or Montana, the proposed plant is being designed and developed to burn high-sulfur Illinois coal, the locally available coal. It would be inconsistent with the scope of the project to use coal from other regions of the country. Rather, the BACT determination addresses the appropriate control technology for SO_2 emissions associated with use of this coal at the proposed plant.

Project Summary at 8. Later, in responding to public comments, IEPA further explained as follows:

> The project that must be addressed when evaluating BACT is the project for which an application has been submitted, i.e., a proposed mine-mouth power plant. The source of coal for which the plant would be developed is a specific reserve of 240 million tons of recoverable coal, which would meet the needs of the proposed plant for more than 30 years. Accordingly, the use of a particular coal supply is an inherent aspect of the proposed project. To require an evaluation of an alternative coal supply, as suggested by this comment, would constitute a fundamental change to the project.

Response to Comments at 23. IEPA also stated in its response to comments that the Board's prior decisions "support the principle that a permitting authority should consider BACT for the project for which an application has been submitted and not 're-define the source.'" *Id.* at 24.

Petitioners argue that IEPA's Response to Comments is clearly erroneous on the grounds that it allegedly contravenes the "plain language of the definition of BACT and previous Board decisions." Petition at 33. Specifically, Petitioners argue that IEPA's rejection of low-sulfur coal at step 1 of the top-down BACT

analysis violates the statutory BACT definition's requirement that "clean fuels" be considered as a means of achieving emissions reductions. *Id.* Petitioners also argue that IEPA's application of the "clean fuels" requirement is contrary to prior Board and Administrator decisions interpreting the statutory text. *Id.* (citing *In re Inter-Power of N.Y., Inc.*, 5 E.A.D. 130, 134 (1994); *In re Old Dominion Elec. Coop.*, 3 E.A.D. 779, 794 n.39 (Adm'r 1992); *In re Hibbing Taconite Co.*, 2 E.A.D. 842-43 (Adm'r 1989)).

In support of their argument, Petitioners point to the statutory term "clean fuels" that the 1990 CAA Amendments added to the BACT definition's list of applicable methods for achieving emission reductions. *See* Pub. L. No. 101-549, § 403(d), 104 Stat. 2399, 2631-32 (1990). As amended, the statutory BACT definition provides that the emissions limits for a facility[13] are to be based on the maximum emissions reduction achievable "through application of production processes and available methods, systems and techniques, including fuel cleaning, *clean fuels*, or treatment or innovative fuel combustion techniques." CAA § 169(3), 42 U.S.C. § 7479(3) (emphasis added). Petitioners correctly observe that the Board has stated that consideration of "clean fuels" must be part of the BACT analysis. Specifically, we have explained that "in deciding what constitutes BACT, the Agency must consider both the cleanliness of the fuel and the use of add-on pollution control devices." *In re Inter-Power of N.Y., Inc.*, 5 E.A.D. 130, 134 (1994); *see also, Haw. Commercial & Sugar Co.*, 4 E.A.D. 95, 99 n.7 (EAB 1992); *In re Old Dominion Elec. Coop.*, 3 E.A.D. 779, 794 n.39 (Adm'r 1992). In *Inter-Power*, the Board observed that "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 in identifying BACT level controls.'" *Inter-Power*, 5 E.A.D. at 134 (quoting Letter from William G. Rosenberg, Assistant Administrator for Air and Radiation, to Henry A. Waxman, Chairman, Subcommittee on Health and Environment, House Committee on Energy and Commerce (Oct. 17, 1990), reprinted in 136 Cong. Rec. at S16916-17 (daily ed. Oct. 27, 1990)). Thus, we stated that "proper BACT analysis must include consideration of cleaner forms of the fuel proposed by the source." *Inter-Power* at 145.

In responding to Petitioners' appeal, IEPA states that it "does not dispute that lower-emitting production processes, including the use of clean fuel alternatives, may indeed represent a type of 'available control option' that warrants an appropriate level of inquiry under the BACT analysis." IEPA's Response at 64.

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[13] The statutory definition refers to "any major emitting facility." CAA § 169(3), 42 U.S.C. § 7479(3). The regulatory definition, on the other hand, refers to "any proposed major stationary source or major modification," 40 C.F.R. § 52.21(b)(12). The regulatory definition does not include the reference to "clean fuels." *Id.*

IEPA explains that it "broadly considered other alternative coal supplies for the proposed plant," but rejected "[a] more detailed analysis of alternative coal supplies" on the grounds that "it was beyond the scope of the project, a power plant fueled from coal delivered by a conveyor belt from an adjacent dedicated mine." *Id.* at 65. IEPA argues that its decision not to require a detailed analysis of low-sulfur coal as an emissions control alternative is consistent with EPA guidance and prior Board decisions. *Id.* at 66. In particular, IEPA observes that the NSR Manual states that "'[h]istorically, EPA has not considered the BACT requirement as a means to redefine the design of the source when considering available control alternatives.'" *Id.* (quoting NSR Manual at B.13). IEPA notes that this policy against "redefining" the source through BACT has been endorsed by Board and Administrator decisions. *Id.* at 67-70 (citing *In re Hillman Power Co.*, 10 E.A.D. 673, 692 (EAB 2002); *In re Haw. Commercial & Sugar Co.*, 4 E.A.D. 95, 99 (EAB 1992); *In re Old Dominion Elec. Coop.*, 3 E.A.D. 779, 794 (Adm'r 1992); *In re Pennsauken County, N.J., Res. Recovery Facility*, 2 E.A.D. 667, 673 (Adm'r 1988)). IEPA argues that it did not abuse its discretion in relying on the "'redefining the source' doctrine" when it concluded that consideration of low-sulfur coal would redefine the proposed source and, therefore, may be eliminated from further consideration at step 1 of the top-down BACT analysis. *Id.* at 69.

In response to the Board's request for briefing from EPA's Office of General Counsel and Region 5 on certain issues,[14] EPA's Office of Air and Radiation, represented by the Agency's Office of General Counsel, and Region 5 (hereinafter collectively "OAR") jointly submitted a brief discussing, among other things, the basis for the Agency's policy that BACT generally should not redefine the source and providing OAR's views regarding application of that policy in this case. *See* Brief of the EPA Office of Air and Radiation and Region V at 2-15 (Mar. 7, 2006) [hereinafter "OAR's Brief"]. OAR explains that the policy "reflects the Agency's longstanding judgment that there should be limits on the degree to which permitting authorities can dictate the design and scope of a proposed facility through the BACT analysis." *Id.* at 2.

OAR also explains that this policy represents a permissible resolution of ambiguity found in the CAA statutory text of sections 165 and 169. *Id.* at 2-5.[15]

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[14] *See* Order Requesting EPA's Office of General Counsel and EPA's Region 5 to File a Brief (Dec. 12, 2005).

[15] OAR argues that the statute creates "some tension between the obligation to conduct the BACT analysis on the 'proposed facility' with the concurrent obligation to consider as BACT 'application of production processes and available methods, systems, and techniques,' including lower-emitting fuels." OAR's Brief at 5. OAR explains that ambiguity in the statutory text's meaning arises from: (a) the statutory text's distinction in section 165(a)(2) between "alternatives" to the source and "control technology requirements" for the source, *id.* at 3 (discussing 42 U.S.C. § 7475(a)(2)); (b)
Continued

OAR argues that the Agency's long-standing policy on redefining the source "establishes some level of balance" and "reasonably harmonizes" the competing BACT obligations that the permit issuer review the project as proposed – not something fundamentally different – while simultaneously critically reviewing all elements of the proposed project's design and, in particular, considering whether lower emissions are achievable through "'application of production processes and available methods, systems, and techniques,' including lower-emitting fuels." *Id.* at 5. OAR summarizes the Agency's longstanding approach as a "policy against redefining the basic design of the proposed source in the BACT analysis because there continues to be a need to distinguish between basic design aspects of the facility proposed by the applicant that must be fixed[16] to enable a case-by-case review and the types of processes, methods, systems, and techniques that are potentially applicable to a specific facility to control pollution." *Id.* at 6.

Petitioners filed a response to the OAR Brief. *See* Petitioners' Response to Brief of the EPA Office of Air and Radiation and Region V (Mar. 30, 3006) [hereinafter "Response to OAR Brief"]. Petitioners dispute OAR's reading of the statute and contend that OAR seeks to add a "'basic design' exception by manufacturing a 'tension' and 'ambiguity' within the statute." *Id.* at 6. Petitioners state, "No such tension exists." *Id.* Nevertheless, Petitioners do acknowledge that the BACT inquiry is limited – Petitioners acknowledge that the "source itself" or the "facility's basic purpose" is "beyond the scope" of the BACT analysis. *Id.* at 9. Thus, it appears that Petitioners do not dispute or challenge the Agency's longstanding judgment, as explained in OAR's Brief at 2, that "there should be limits on the degree to which permitting authorities can dictate the design and scope of a proposed facility through the BACT analysis."

Petitioners, however, disagree both with OAR's statutory explanation for the Agency's policy against generally redefining the source through application of BACT and with OAR's articulation of the scope of BACT review. *See, e.g.*, Response to OAR's Brief at 1, 3. Briefly, where OAR finds ambiguity in the statutory phrases the "proposed facility," "alternatives" to the source, "control technology requirements" for the source, and "application of production processes and available methods, systems, and techniques" to "such facility" on a "case-by-case

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the reference to "proposed facility" in section 165(a)((1) and (4) and the reference to "such facility" in the BACT definition in section 169(3), *id.* at 3-4(discussing 42 U.S.C. §§ 7475(a)(1), (4), 7479(3)); (c) the requirement that BACT be determined on a "case-by-case basis," *id.* at 4 (discussing 42 U.S.C. § 7479(3)); and (d) the BACT definition's requirement that permitting authorities consider "'application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques,'" *id.* (discussing 42 U.S.C. § 7479(3)).

[16] It appears that by "fixed" OAR intended to mean unmovable or anchored, rather than corrected or repaired.

basis," as used in CAA sections 165 and 169, OAR's Brief at 3-5,[17] Petitioners find no such ambiguity in those phrases, but instead contend that, as used in CAA section 169, "the terms 'process[]' and 'method[], system[], or technique[],' by definition, do not include the purpose or existence of the facility. They encompass only the means by which the facility's 'end' 'object,' 'aim,' or 'purpose' is achieved." Response to OAR's Brief at 9 (quoting 42 U.S.C. § 7479(3) (alterations made by Petitioners)).[18]

Petitioners also criticize OAR's articulation of the appropriate scope of a BACT analysis. Petitioners argue that OAR "would add a preliminary step to its traditional top-down BACT analysis: a permitting agency would designate (accordingly to no clear standards beyond the applicant's say-so) certain elements of the applicant's preferred design as 'basic,' or 'fundamental,' and eliminate any pollution controls that would alter those elements." *Id.* at 3. In contrast, Petitioners contend that the statutory language and prior Board and Administrator decisions recognize that "the facility's basic purpose, not its design" is not subject to BACT review. *Id.* at 9. They state, "In other words, pollution controls that retain the facility's fundamental product or purpose do not 'redefine the source,' regardless of whether they require modification of the permit-applicant's preferred design." *Id.* at 10.

Upon consideration, we conclude that Petitioners' arguments on the use of low-sulfur coal are not sufficient to establish clear error and thus to require remand of IEPA's permitting decision. We find it significant that all parties here, including Petitioners, agree that Congress intended the permit applicant to have the prerogative to define certain aspects of the proposed facility that may not be redesigned through application of BACT and that other aspects must remain open to redesign through the application of BACT.[19] The parties' arguments, properly framed in light of their agreement on this central proposition, thus concern 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. On this issue, Petitioners contend that there is a fundamental conflict between the words they use to identify the demarcating line and the words used by OAR. Specifically, Petitioners state that the facility's "end" "object," "aim," or "purpose" is the

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[17] OAR's argument is summarized above in footnote 15.

[18] Petitioners observe that the dictionary defines the term process as "a series of actions or operations conducing to an *end*," method as "a procedure or process for attaining *an object*," technique as "a method of accomplishing *a desired aim*," and system as "a group of devices * * * serving a common *purpose*." Response to OAR's Brief at 9 (quoting Webster's New Collegiate Dictionary (1975) (emphasis added by Petitioners)).

[19] Below, in Part II.B.2.b, we discuss the permit issuer's authority to consider "alternatives" to the proposed facility that would contemplate redesign beyond that which would be generally available as part of the BACT analysis.

proper way of framing that demarcation, and they contend that OAR's proffered "test – whether the Station's 'basic design' requires the use of high-sulfur coal – [] lacks any principled standards." Response to OAR's Brief at 12. Petitioners argue that OAR's test lacks a "firm anchor in the statutory text," "lacks any principled standards," and would result in an excessive reliance on the "applicant's say-so" eliminating all but a "very few" pollution controls as inconsistent with the "basic design." *See* Response to OAR Brief at 3, 7, 12. Petitioners also contend that "IEPA's interpretation would allow a permit applicant to avoid all BACT review by including its preferred fuel, add-on controls, and other pollution controls and hide behind the claim that requiring anything different would unlawfully 'redefine' the proposed source." Petition at 32.

We see no fundamental conflict in looking to a facility's basic "purpose" or to its "basic design" in determining the proper scope of BACT review, nor do we believe that either approach is at odds with past Board precedent. Petitioners are correct that the Board's and the Administrator's prior decisions reflect "a central concern with preservation of the facility's basic purpose." Response to OAR's Brief at 9. However, Petitioners are not correct when they assert that our prior decisions have not looked to the facility's "basic design" as a relevant criterion. We have specifically stated that "EPA has not generally required a source to change (i.e., *redefine) its basic design*." *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 136 (EAB 1999) (emphasis added). Indeed, the NSR Manual, which was issued in 1990, specifically states, "Historically, EPA has not considered the BACT requirement as a means to *redefine the design* of the source when considering available control alternatives." NSR Manual at B-13 (emphasis added). Further, any distinction between the terms "product or purpose" and "basic design" must be guided by the ordinary meaning of those terms. Webster's Collegiate Dictionary defines "design," when used as a noun, both in the manner Petitioners appear to understand its meaning, namely as a "scheme in which means to an end are laid down,"[20] and also in a manner that looks to the end or object, i.e., "a particular purpose held in view by an individual or group." Webster's Collegiate Dictionary 313 (10th ed. 1999). As a practical matter, "design," understood as a schematic drawing showing the means to an end, and "design," used to identify the end, object, or purpose, are inherently intertwined. The permit applicant's schematic design can be presumed to be directed at accomplishing the permit applicant's purpose or basic design for the proposed facility. Thus, we find no fundamental conflict between Petitioners' statement that the demarcating line is defined by the facility's purpose and OAR's and IEPA's statement that it is defined by the facility's basic design.

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[20] *See* Response to OAR Brief at 9 (noting that the statutory terms used in the BACT definition – processes, methods, systems, and techniques – "encompass only the *means* by which the facility's 'end,' 'object,' 'aim,' or 'purpose' is achieved." (emphasis added)).

The real conflict here concerns who is the appropriate entity to identify the facility's purpose or basic design. Petitioners essentially maintain that this role falls to IEPA, independent of how the applicant articulates the project in its permit application. In this regard, Petitioners argue that requiring Prairie State to consider using low-sulfur coal would not redefine Prairie State's proposed Facility on the grounds that "[t]he basic purpose of the facility would remain the same: the production of electricity, from coal" and that requiring the use of low-sulfur coal "would not call into question the existence of the power plant." Response to OAR's Brief at 10. Petitioners' argument, however, does not explain how the permit issuer is to identify the proposed Facility's basic purpose and, thus, it offers no clear standard for doing so.[21] We must reject this approach and instead conclude the statute contemplates that the permit issuer looks to how the permit applicant defines the proposed facility's purpose or basic design in its application, at least where that purpose or design is objectively discernable, as it is here.

Our conclusion flows from the specific statutory words and phrases identified both by Petitioners and OAR and from Congress' establishment of the PSD program as a permitting system that is initiated by an application from the owner or operator of a proposed source. In essence, the statute contemplates that the process for issuing a PSD permit involves, among other things, the following: (1) a "permit application;" (2) an analysis of the ambient air quality, which may be conducted by "the major emitting facility applying for such permit;" (3) notice of the "permit application" to the Federal Land Manager in certain circumstances; (4) an opportunity for public comment regarding "the air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations;" (5) the facility owner or operator's demonstration that emissions from the facility will not cause or contribute to violations of the NAAQS or PSD increments; and (6) a demonstration that the "proposed facility" is "subject to" BACT. CAA § 165, 42 U.S.C. § 7475. The specific statutory words in the definition of BACT (i.e., processes, methods, systems, and techniques) that Petitioners point to as including the "means" but excluding the "facility's 'end,' 'object,' 'aim,' or 'purpose'" from BACT review must not be read in isolation, but instead are a part of a permit application process that requires the "proposed facility" to be subject to BACT. In this context, the permit applicant initiates the process and, in doing so, we conclude, defines the proposed facility's end, object, aim, or purpose – that is the facility's basic design, which no doubt will be reflected in the permit applicant's schematic design for the proposed facility.

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[21] In this respect, Petitioners' argument suffers from the same criticism they level against OAR's "basic design" notion. Response to OAR's Brief at 3 (stating that OAR "would add a preliminary step to its traditional top-down BACT analysis: a permitting agency would designate (according to no clear standards beyond the applicant's say-so) certain elements of the applicant's preferred design as 'basic,' or 'fundamental,' and eliminate any pollution controls that would alter those elements").

Looking in the first instance to how the permit applicant defines the proposed facility's purpose or basic design in its application not only harmonizes the BACT definition with the permit application process in which the definition must be applied, but also is consistent with the Agency's long-standing policy against redefining the proposed facility.[22] When the Administrator first developed this policy in *Pennsauken*, the Administrator concluded that permit conditions defining the emissions control systems "are imposed on the source *as the applicant has defined it*" and that "the source itself is not a condition of the permit." *In re Pennsauken County, N.J., Res. Recovery Facility*, 2 E.A.D. 667, 673 (Adm'r 1988) (emphasis added); *see also In re Old Dominion Elec. Coop.*, 3 E.A.D. 779, 793 n.38 (Adm'r 1992) ("Traditionally, EPA has not required a PSD applicant to change the fundamental scope of its project."); *In re Spokane Reg'l Waste-to-Energy*, 2 E.A.D. 809, 811 n.7 (Adm'r 1989) (same).

For these reasons, we conclude that the permit issuer appropriately looks to how the applicant, in proposing the facility, defines the goals, objectives, purpose, or basic design for the proposed facility. Thus, 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, and therefore, the permit issuer must discern which design elements are inherent to that 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.[23]

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[22] As explained further below in Part II.B.2.b, the Agency's policy counsels against redefining the facility's basic design, but also reserves "the discretion to engage in a broader analysis if [the states] so desire." NSR Manual at B.13.

[23] OAR specifically recognizes that the applicant's definition of the facility's design must be "for reasons independent of air quality permitting." OAR Brief at 13. In this regard, we note that cost savings generally is not a sufficient purpose or objective that would justify treating a design element as basic or fundamental. Instead, cost is generally considered at step 4 of the top-down BACT review method. NSR Manual at B.8, B.26-.45; *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 202-07 (EAB 2000); *In re Masonite Corp.*, 5 E.A.D. 551, 564 (EAB 1994); *In re Inter-Power of N.Y., Inc.*, 5 E.A.D. 130, 135-36, 145-50 & n.33 (EAB 1994); *In re Hibbing Taconite Co.*, 2 E.A.D. 838, 843 (Adm'r 1989) (requiring consideration of burning natural gas, rather than petroleum coke, notwithstanding the greater cost of natural gas). Likewise, the business objective of avoiding risk associated with new, innovative or transferable control technologies is not treated as a basic design element, but instead is considered under step 2 of the top-down method. NSR Manual at B.18 ("A source would not be required to experience extended time delays or resource penalties to allow research to be conducted on a technique. Neither is it expected that an applicant would be required to experience extended trials to learn how to apply a technology on a totally new or dissimilar source type."). Thus, when evaluating an applicant's assertion that a design element is fundamental, the permit issuer should consider whether the facts underlying that assertion are better considered within the framework of steps 2 through 5 of the top-down method, rather than grounds for excluding redesign at step 1.

In the present case, IEPA's findings in its Response to Comments, which were based on information submitted by the permit applicant, contradict Petitioners' unsupported assertion that the purpose of Prairie State's proposed Facility must be broadly viewed as the production of electricity from coal. In concluding that compelling use of low-sulfur coal would redefine the proposed Facility's basic design or purpose, IEPA properly considered Prairie State's objectives for the proposed Facility. In particular, IEPA found that the "source of coal *for which the plant would be developed* is a specific reserve of 240 million tons of recoverable coal." Response to Comments at 23. IEPA also found that this "specific reserve" of coal "would meet the needs of the proposed plant for more than 30 years." *Id.* For this reason, IEPA concluded that "the use of a particular coal supply is an inherent aspect of the proposed project." *Id.*; *see also id.* at 25 ("The development of a mine-mouth power plant is an intrinsic aspect of the proposed plant, which would be developed to use a specific reserve of fuel, which is adequate for the expected life of the plant."). IEPA's findings regarding the central purpose of the proposed Facility – production of electricity from a dedicated 30-year supply of coal – is supported in part by the fact that Prairie State submitted the permit application for the coal mine and electric generating plant as a single new source. Permit Application at 2-5.[24] As such, the mine's pollutant emissions were included in Prairie State's air quality modeling and Prairie State's BACT analysis. *Id.* at App. B, Attach. B-1, App. C, Attach. C-5.

In the face of IEPA's specific findings regarding the proposed Facility's purpose and Prairie State's permit application for the co-located mine and power plant, we cannot infer, as Petitioners assert, that a change in coal supply "would not call into question the existence of the power plant," nor that "[t]he basic purpose of the facility would remain the same." Response to OAR's Brief at 10. To the contrary, the identification of a 30-year fuel supply under common ownership or control and co-located with the electric power generating plant would appear to be a valid purpose or objective that is independent of air quality permitting. While cost savings may be a factor, utilization of this particular coal resource is the primary objective. Petitioners certainly have not pointed to anything in the record

[24] There is no suggestion in the record that Prairie State's proposed electric generating plant and mine are not appropriately classified in this case as one source under the applicable regulations and guidance. Stationary source is defined as "any building, structure, facility, or installation," which in turn is defined as "all of the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control)." 40 C.F.R. § 52.21(b)(5), (6). A support facility may be considered to be a part of the same industrial group as the primary facility it supports even if the supporting facility would be classified in a separate group when operated independently. 45 Fed. Reg. 52,695 (Aug. 7, 1980); *see also* Letter from Robert B. Miller, EPA Region 5, to William Baumann, Wisc. Dept of Natural Resources, Regarding Oscar Mayer and Madison Gas & Elec. (Aug. 25, 1999).

that would contradict this conclusion.[25]

We also specifically reject Petitioners' contention that an electric generating facility's purpose must be viewed as broadly as "the production of electricity, from coal." Response to OAR's Brief at 10. We have frequently recognized that an electric generating facility's purpose may be more narrowly defined. For example, in *Kendall New Century*, we recognized that it was appropriate for the permitting authority to distinguish between electric generating stations designed to function as "base load" facilities and those designed to function as "peaking" facilities, and that this distinction affects how the facility is designed and the pollutant emissions control equipment that can be effectively used by the facility. *In re Kendall New Century Dev.*, 11 E.A.D. 40, 50-52 & n.14 (EAB 2003) (noting that a change from base-load to peaking would redefine the proposed facility's design). It has also been long-standing EPA policy that certain fuel choices are integral to the electric power generating station's basic design. *See* NSR Manual at B.13 ("applicants proposing to construct a coal-fired electric generator, have not been required by EPA as part of a BACT analysis to consider building a natural gas-fired electric turbine although the turbine may be inherently less polluting per unit product"); *In re SEI Birchwood, Inc.*, 5 E.A.D. 25, 29-30 n.8 (EAB 1994) (switch to natural gas would redefine coal-fired electric generating plant); *In re Haw. Commercial & Sugar Co.*, 4 E.A.D. 95, 99-100 (EAB 1992) (switch from coal to oil-fired combustion turbine not required); *In re Old Dominion Elect. Coop.*, 3 E.A.D. 779, 793 (Adm'r 1992) (switch to natural gas would redefine coal-fired electric generating plant).

We reject Petitioners' contention that the Agency's policy against using the BACT analysis to redefine the basic design of the proposed source has "no clear standards" or "lacks any principled standards." Response to OAR's Brief at 3, 12. We first note that the NSR Manual's guidance on "redefining the design of the source" applies only to "lower polluting processes." NSR Manual at B.13-.14. As such, the Agency's guidance does not allow the applicant's business purpose or design to preclude application of "add-on controls," including demonstrated and transferable technologies and innovative technologies. NSR Manual at B.11-.12. Also, in this context, OAR specifically recognizes that the applicant's design objectives must be "for reasons independent of air quality permitting." OAR Brief

[25] We reject Petitioners contention that the Permit condition allowing Prairie State to use coal obtained off-site during limited interruptions in the mine-mouth coal supply is evidence that off-site coal would not significantly alter the design, scope, or purpose of the project. Response to OAR's Brief at 13-14. The limited circumstances in which the Permit would authorize use of off-site coal does not call into question IEPA's conclusion that permitting a co-located and co-owned 30-year coal supply for the proposed Facility is part of its fundamental purpose or basic design.

at 13. The NSR Manual also states with respect to production processes,[26] that where "a given production process or emissions unit can be made to be inherently less polluting" "the ability of design considerations to make the process inherently less polluting *must be considered* as a control alternative for the source." NSR Manual at B.14 (emphasis added).[27] Thus, viewing the proposed facility's basic design as something that generally should not be redefined through BACT review does not prevent the permit issuer from taking a "hard look"[28] at whether the proposed facility may be improved to reduce its pollutant emissions. That hard look necessarily should include consideration of whether the permit applicant's basic design is "independent of air quality permitting." OAR Brief at 13.[29]

In the case of *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 127 (EAB 1999), the Board concluded that the permit issuer had not taken a sufficiently hard look at the proposed facility's basic design. In that case, we noted that the permit issuer "attempted to explain" the reasons why certain other fiberglass production plants identified in the public comments were able to achieve lower PM_{10} emissions limits by referring to "patented process design techniques" that result in different processes used by other facilities. *Id.* at 136. The permit issuer asserted that requiring a lower emissions rate "would amount to a redefinition of the source" and that the BACT analysis was appropriately confined to the facilities employing the same proprietary process, i.e., only other facilities owned by the permit applicant. *Id.* We observed that EPA's history of regulating the fiberglass industry lent some support to the argument that different fiberglass production facilities employ proprietary process methods and that the Agency generally recognizes that those process differences "vary from firm to firm and product to product" and are both confidential and proprietary to the different facilities. *Id.* at 139-40. Nevertheless, we rejected the permit applicant's arguments and remanded the permit for a more detailed BACT analysis. We explained that the permit issuer's failure to take a sufficiently hard look at the design issues had the "potential to circumvent the purpose of BACT, which is to promote use of the best control technologies as widely as possible." *Id.* at 140. After remand, it was clear that a more thorough

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[26] The NSR Manual states that "[a] production process is defined in terms of its physical and chemical unit operations used to produce a desired product from a specific set of raw materials." NSR Manual at B.13-.14.

[27] OAR states that "EPA acknowledges that the potentially-applicable control options evaluated in the BACT review should include 'inherently lower-polluting processes' as well as add-on pollution controls." OAR Brief at 4 (citing NSR Manual at B.10, B.13).

[28] OAR explains that BACT review requires a "hard look" at the proposed facility. OAR Brief at 6.

[29] Thus, while we agree with OAR's statement that "an applicant's basic design is a matter solely within the expertise and discretion of the permit applicant," we also note that the assertion, and finding, that the design is for reasons independent of air quality permitting must be reasonable and supported by the record.

review of the design issues resulted in further achievable emissions reductions for the proposed facility without requiring it to adopt the process methods that were proprietary to other firms within the fiberglass industry. *See In re Knauf Fiber Glass, GmbH,* 9 E.A.D. 1, 8-11 (EAB 2000).

In the present case, we are satisfied that IEPA took a sufficiently hard look at Prairie State's proposed Facility design to determine whether further emissions reductions would be achievable through inherently lower-polluting processes or methods while still achieving Prairie State's purpose or basic design for the Facility. In particular, IEPA specifically required Prairie State to submit a detailed analysis of Integrated Gasification Combined Cycle ("IGCC") as a method for controlling emissions from Prairie State's proposed Facility. *See* Letter from Donald E. Sutton, P.E., Manager Permit Section, IEPA Division of Air Pollution Control, to Dianna Tickner, Prairie State (Mar. 29, 2003).[30] Notably, IGCC is not simply an add-on emissions control technology, but instead would have required a completely redesigned "power block." Briefly, IGCC involves the conversion of coal to a synthetic gas, which is then burned in a combustion turbine. An IGCC power plant requires the sequential combination of cryogenic oxygen production, gasification (conversion of coal to raw syngas), heat recovery, syngas scrubbing and desulfurization, sulfur recovery, and a syngas-fired combined cycle power block. SFA Pacific, Inc., *Evaluation of IGCC to Supplement BACT Analysis of Planned Prairie State Generating Station* at 6 (May 11, 2003). As we explain below in Part II.B.3, IEPA ultimately concluded that IGCC would not be required for control of SO_2 emissions on the grounds that it has not been shown to achieve greater reductions than the technology proposed by Prairie State. Nevertheless, IEPA's demand that Prairie State provide a detailed analysis of IGCC, which IEPA noted has the promise to achieve greater reductions, demonstrates that IEPA's application of the policy against redefining the design of the source through application of BACT did not treat "very few" design changes as consistent with the proposed Facility's basic design – selection of IGCC would have required extensive design changes to Prairie State's proposed Facility.

Thus, we reject Petitioners' allegation that "IEPA's interpretation would allow a permit applicant to avoid all BACT review by including its preferred fuel, add-on controls, and other pollution controls and hide behind the claim that requiring anything different would unlawfully 'redefine' the proposed source." Petition at 32. Likewise, we reject Petitioners' allegation that "basic design" used as a demarcation between what may or may not be modified through application of

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[30] IEPA explained that "IGCC is a 'production process' that can be used to produce electricity from coal," that "IGCC is a technically feasible production process," and that IEPA "has determined that IGCC qualifies as an alternative emission control technique that must be fully addressed in the BACT demonstration for the proposed plant." Letter from Donald E. Sutton, P.E., Manager Permit Section, IEPA Division of Air Pollution Control, to Dianna Tickner, Prairie State at 1 (Mar. 29, 2003).

BACT would result in an excessive reliance on the "applicant's say-so" eliminating all but a "very few" pollution controls as inconsistent with the "basic design." *See* Response to OAR Brief at 3, 7.[31] To the contrary, IEPA's consideration of IGCC demonstrated that IEPA gave due regard to Prairie State's objective in submitting a permit application for the proposed Facility, namely development of an electric power generating plant that would be co-located and co-permitted with a 30-year supply of fuel, and then explored every potential add-on technology and potentially lower-emitting production processes or methods consistent with that basic design to determine the maximum emissions reductions achievable for the Facility.

For the foregoing reasons, we conclude that Petitioners have not shown that IEPA clearly erred when it determined that consideration of low-sulfur coal, because it necessarily involves a fuel source other than the co-located mine, would require Prairie State to redefine the fundamental purpose or basic design of its proposed Facility and that, therefore, low-sulfur coal could appropriately be rejected from further BACT analysis at step 1 of the top-down BACT review method.

b. *Authority to Consider* "*Alternatives*" *that Redefine the Source*

Petitioners argue that the definition of BACT is not the only basis upon which IEPA was required to consider use of low-sulfur coal at the proposed Facility. Petitioners argue that IEPA was required to consider low-sulfur coal and a wide range of alternatives on the grounds that the CAA provides that the public is entitled to comment on alternatives to the proposed facility.

Petitioners state that in the present case "[m]ultiple individuals and organizations, including the Department of the Interior and Petitioners, urged IEPA to consider whether there was a need for [Prairie State's proposed Facility]; to consider alternatives to coal such as natural gas, renewable energy sources and energy efficiency; to consider a smaller power plant with less overall emissions and fewer impacts * * * ." Petition at 9. Petitioners note that IEPA's response to comments stated that it does not have the authority to consider alternatives because of "action taken by the Illinois Legislature to deregulate the generation of electricity," and Petitioners contend that IEPA's responses to comments are not "adequate

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[31] We reject Prairie State's suggestion that "the coal inherently defines the design of the plant." Prairie State Response at 45. OAR appropriately states that use of low-sulfur coal would not require Prairie State to "fundamentally change the power block at the proposed source" and that the sulfur content of the coal is not itself the "basic design element of the facility." OAR Brief at 10. Rather, as stated in the text, the basic design or fundamental purpose, as found by IEPA, is a coal-fired electric power generating station co-located and co-permitted with a coal mine that will provide a 30-year fuel supply under common ownership or control.

or accurate justification for failing to conduct an overall review of air resource allocation." *Id.* at 10. Petitioners argue that IEPA's authority to consider alternatives is conferred by federal law governing the PSD program, since IEPA is acting in this case under a Federal delegation, not by state law (indeed, Petitioners argue state law is irrelevant). *Id.* at 10-11. As support for their arguments, Petitioners cite to three briefs submitted by EPA's Office of Air and Radiation in several cases that were pending before the Environmental Appeals Board in the mid- to late-1990s. *Id.* at 12-16 (citing Amicus Brief of EPA Region V and EPA Office of Air and Radiation In Response to the Board's Order to Show Cause, *In re West Suburban Recycling & Energy Center, L.P.*, 6 E.A.D. 692 (EAB July 30, 1996) (PSD Appeal Nos. 95-1 & 96-1); Response of EPA Region II and EPA Office of Air and Radiation to Mr. Arana's Petition for Review, *In re EcoEléctrica, L.P.*, 7 E.A.D. 56 (EAB Dec. 24, 1996) (PSD Appeal Nos. 96-8 & 96-13); Amicus Brief of EPA Region V and EPA Office of Air and Radiation in Response to RURAL's Amended Petition for Review and the Responses of WDNR and RockGen, *In re RockGen Energy Ctr.*, 8 E.A.D. 536 (EAB June 11, 1999) (PSD Appeal No. 99-1)).

IEPA argues that it is only required to consider alternatives falling within the scope of BACT. IEPA contends that its PSD permitting authority "does not authorize a denial of PSD approval based upon the need for or alternatives to the proposed facility thereby causing a redefinition of the source." IEPA Response at 32. In its response to comments, IEPA explained that the CAA does not require the permit issuer to perform an alternatives analysis. Response to Comments at 13-14. IEPA contends further that the Illinois legislature specifically removed the Illinois Commerce Commission's authority to consider "public necessity" and the legislature has not conferred that authority on IEPA. *Id.* at 30. Prairie State argues in support of IEPA's position stating that IEPA properly concluded that the CAA does not grant IEPA authority to consider the "need for" and "alternatives to" the proposed facility. Prairie State's Response at 16.

OAR contends that, although the CAA does grant permit issuers authority to consider alternatives, it does not grant authority to consider need for a proposed facility, and in the present case OAR contends IEPA gave a reasoned response as to why the alternatives identified in the public comments were not an appropriate substitute for the proposed facility. OAR's Brief at 15-25.

Upon consideration, we conclude that, while permit issuers have authority to consider "alternatives" to the proposed facility, Petitioners arguments are not sufficient for us to grant review and order a remand in the present case. The Clean Air Act provides that a PSD permit may not be issued unless, among other things, "a public hearing has been held with opportunity for interested persons * * * to appear and submit written or oral presentations on the air quality impact of such source, *alternatives thereto*, control technology requirements, and other appropriate considerations[.]" CAA § 165(a)(2), 42 U.S.C. § 7475(a)(2). Petitioners argue

that this statutory right of the public to comment on "alternatives" requires that, when alternatives to the proposed facility are identified in the public comments, the permit issuer must consider those alternatives. Petition at 9, 14. Notably, OAR agrees that the permit issuer's obligation to consider and respond to alternatives is "[i]nherent in the requirement to provide an opportunity for comment." OAR Brief at 16. OAR also explains that "[i]mplicit in the obligation to consider and respond to public comments on particular matters is the discretion to modify the permit decision based on such comments." *Id.* at 18.

The obligation to consider "alternatives" under section 165(a)(2) is not unlimited, as OAR correctly notes. *See* OAR Brief at 17-18. First, it is self-evident that Congress did not intend section 165(a)(2)'s reference to "alternatives" to open the public comment process to matters unrelated to air quality. Thus, as stated by OAR, the "permitting authority need not respond to comments on alternatives that commenters recommend to achieve objectives unrelated to air quality." OAR's Brief at 18. It is sufficient for the permitting authority to merely explain that the comment falls outside the scope of what the public is entitled to raise during the public comment period. We also agree with OAR's statement that the permitting authority is not required to "conduct an independent analysis of available alternatives." *Id.* at 17. Because the CAA contains specific language for permits in nonattainment areas requiring the permit issuer to perform an analysis of alternative sites, sizes, and production processes, among other things, to determine whether the benefits of the proposed source outweigh its costs, and because similar specific language is not included for the issuance of a PSD permit, *compare* 42 U.S.C. § 7503(a)(5) *with id.* § 7475(a), the PSD permit issuer therefore is not required to perform an independent analysis of alternatives. For this reason, we find no clear error in IEPA's response to comments that the statutory language does not "require" a permitting authority to conduct an alternatives analysis, nor in IEPA's response to comments that "it cannot be assumed that Congress intended that a wide-ranging analysis of alternatives must be conducted by the permitting authority." Response to Comments at 13-14.

OAR also correctly states that in the PSD context "[t]he extent of [the permitting authority's] consideration and analysis of alternatives need be no broader than the analysis supplied in public comments." OAR's Brief at 17. This conclusion flows naturally from our conclusion that Congress did not require the PSD permit issuer to undertake an independent investigation of alternatives. Indeed, more generally, the permitting regulations do not require the permit issuer's response to public comments "to be of the same length or level of detail as the comment." *In re NE Hub Partners*, 7 E.A.D. 561, 583 (EAB 1998). Instead, "[t]he response to comments document must demonstrate that all significant comments were considered." *Id.; see also* 40 C.F.R. § 124.17(a)(2).

This is not to say that the permit issuer's discretionary authority to consider alternatives is altogether constrained by the content of comments. Indeed, the per-

mit issuer is not required to wait until an "alternative" is suggested in the public comments before the permit issuer may exercise the discretion to consider the alternative. Instead, the permit issuer may identify an alternative on its own. This interpretation of the authority conferred by CAA section 165(a)(2)'s reference to "alternatives" is consistent with the Agency's longstanding policy that, although "EPA has not considered the BACT requirement as a means to redefine the design of the source," nevertheless "this is an aspect of the PSD permitting process in which states have the discretion to engage in a broader analysis if they so desire." NSR Manual at B.13. Consistent with the Agency's longstanding policy, we hold that this authority is within the sound discretion of the permit issuer, but is not required.

In the present case, IEPA provided a sufficient response explaining why it was declining to adopt the commenters' suggestion that only a facility employing low-sulfur coal, natural gas, wind power, or solar power should be allowed. As explained above in Part II.B.2.a, IEPA provided a reasoned basis for rejecting low-sulfur coal as BACT on the grounds that it would redefine the proposed Facility. IEPA also explained that "Illinois would benefit from a new plant as it would be more efficient than older plants and would use local coal contributing to the state's economy." Response to Comments at 15. IEPA did not simply accept Prairie State's business objective; IEPA also concluded that Prairie State's business objective is consistent with the state's public interest. The level of detail in IEPA's analysis on this issue is sufficient given the nature and extent of comments submitted by the public. *NE Hub*, 7 E.A.D. at 583.

With respect to wind and solar power, IEPA explained that Prairie State's proposed Facility is intended to be operated "at its full capacity for up to 24-hours each day." Response to Comments at 16. IEPA explained that "a wind power plant would not be a substitute for the proposed plant" because "[w]ind power is dependent on the strength of the wind, which is neither dependable nor consistent." *Id.* IEPA specifically found that "a wind power plant in Illinois would have an annual capacity factor of at most 25 percent." *Id.* IEPA also stated that "technical and practical obstacles for utility-scale solar power make such an endeavor impractical" and that "[s]olar energy also would not be a substitute for the reliable power provided by the proposed plant." *Id.* With respect to natural gas, IEPA stated that "[u]se of coal in power plants, in areas where coal is available, allows natural gas to be available and affordable for heating homes, businesses, and the vast majority of industrial plants." *Id.* at 22. All of these are sufficient responses to the comments calling for consideration of alternatives and, accordingly, we find no clear error or other grounds for remand with respect to IEPA's consideration of these alternatives.

Petitioners also argue that the public comments urged IEPA to consider whether there is a "need" for Prairie State's proposed Facility and that limits on the size of the facility should be established based on consideration of alternatives,

including wind and solar power and the alternatives of energy conservation and demand management. Response to OAR Brief at 14-18 & n.9. OAR acknowledges that, "[i]n the *EcoEléctrica* and *RockGen* cases, OAR and Regions II and V viewed energy conservation and demand management as alternatives to the proposed source that merit consideration under section 165(a)(2)." *Id.* at 23. Nevertheless, OAR states it "now believes" that "alternatives such as energy efficiency and demand management advocated as a basis for questioning the need for a facility" "are outside the scope of section 165(a)(2) of the Act and need not be considered." *Id.*[32] OAR has not explained its rationale for this change in belief.

We are unable to reconcile the view that consideration of need for a facility is outside the scope of section 165(a)(2) of the Clean Air Act with the text of the statute and prior decisions. The statutory text's plain meaning does not lend itself to excluding public comments that request consideration of the "no build" alternative to address air quality concerns. Moreover, the Board's and Administrator's prior decisions would appear to recognize that consideration of "need" is an appropriate topic under section 165(a)(2). *See In re EcoEléctrica, LP,* 7 E.A.D. 56, 74 (EAB 1997) (recognizing that question of need for the proposed facility may be raised in a PSD permitting appeal, but declining to grant review on the grounds that it was not clear error for the permit issuer to defer to the state agency tasked with the responsibility to consider need for the facility); *In re Kentucky Utils. Co.*, PSD Appeal No. 82-5, at 2 (Adm'r 1982) (same). The statute's legislative history also suggests that Congress contemplated that the option of not approving the proposed facility could be entertained by States in managing allocation of the PSD increments. *See* S. Rep. No. 127, 95th Cong., 1st Sess. 31 (1977), reprinted in Senate Comm. On Environment and Public Works, 95th Cong., 2d Sess., *A Legislative History of the Clean Air Act Amendments of 1977*, vol. 3 at 1405 (1978) (stating that the State or local community may decide how much PSD increment "will be devoted to any major emitting facility" and whether to "refuse to permit construction, or limit its size."). Specifically, an evaluation of relative public need for competing increment uses is an appropriate basis for the delegated State permitting authority's decision. *Id.* (stating that the State and local community may consider, among other things, "anticipated and desired economic growth for the area."). Thus, we decline to adopt the view that consideration of need for a facility is outside the scope of section 165(a)(2) of the Clean Air Act. We also conclude that IEPA was mistaken in its assertion in its response to comments that it "does not have the authority to consider need when evaluating the permit application." Response to Comments at 15.

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[32] OAR does state, however, that "[w]here energy conservation and demand management techniques can be employed by a permit applicant to reduce emissions from the proposed source (without regard to need for the source), these issues may still merit consideration under section 165(a)(2)." OAR's Brief at 23-24.

Nevertheless, we do not find that IEPA committed clear error in declining to engage in the kind of extensive analysis of alternatives that Petitioners argue it must do once the issue has been raised in the public comments. Response to OAR's Brief at 17. As noted above, the permit issuer does not have an independent duty to investigate alternatives raised in public comments, which applies equally to the "no build" alternative. In addition, longstanding Agency policy indicates that the decision whether to consider alternatives that would "redefine" the proposed source falls within the permit issuer's discretion. NSR Manual at B.13. These limits on the permit issuer's obligation to consider alternatives are particularly important where, as would be the case with an evaluation of "need" for additional electrical generation capacity, a rigorous and robust analysis would be time-consuming and burdensome for the permit issuer. In this context, the permit issuer must be granted considerable latitude in exercising its discretion to determine how best to apply scarce administrative resources. We thus reject Petitioners' argument that a commenter can require a permit issuer to perform a rigorous analysis simply by raising the subject of "need" in the public comments. Instead, the permit issuer is only required to consider the analysis submitted during the public comment period, and it may engage in additional analysis as it sees fit, provided that the permit issuer's response to comments is sufficient to "demonstrate that all significant comments were considered." *NE Hub*, 7 E.A.D. at 583.

IEPA's response to comments in the present case demonstrates that, although it believed it did not have authority to consider need, it would in any event not have chosen to exercise discretion to limit construction of the proposed Facility based upon consideration of need and related state objectives even if it had this authority. IEPA stated in its response to comments that, "while Illinois currently may have adequate generating capacity to meet the demand for power, this does not mean that Illinois would not benefit from development of a new, cleaner, coal-fired power plant, such as the proposed plant. * * * Looking ahead, even with conservation and efficiency improvements, electricity needs will increase in the future." Response to Comments at 15. IEPA also observed that "Illinois would benefit from a new plant as it would be more efficient than older plants and would use local coal contributing to the state's economy." Response to Comments at 15. These are legally appropriate and sufficient grounds for IEPA to have decided not to limit the size of the proposed Facility or to prohibit construction altogether. The legislative history specifically recognized that "anticipated and desired economic growth for the area" is an appropriate factor for the permit issuer to consider in issuing its decision. S. Rep. No. 127, 95th Cong., 1st Sess. 31 (1977), reprinted in Senate Comm. On Environment and Public Works, 95th Cong., 2d Sess., *A Legislative History of the Clean Air Act Amendments of 1977*, vol. 3 at 1405 (1978).

Moreover, we have previously recognized that it is appropriate for a permit issuer to refrain from analyzing whether a proposed facility is needed where the state has specifically tasked another state agency with authority to consider that issue. *See In re SEI Birchwood, Inc.*, 5 E.A.D. 25 (EAB 1994) (delegated state

acting as permitting authority);[33] *see also In re EcoEléctrica, LP*, 7 E.A.D. 56, 74 (EAB 1997) (holding that it was not clear error for the permit issuing Region to defer to the state agency tasked with the responsibility to consider need for the facility); *accord In re Kentucky Utils. Co.*, PSD Appeal No. 82-5, at 2 (Adm'r 1982) (same). We conclude that it is similarly appropriate for the PSD permitting authority to take into account a state legislature's decision to deregulate the electric power generation industry and allow individual firms to make a market-based business decision regarding likely future demand for electricity. Thus, while the Illinois legislature's decision to deregulate the electric power industry did not deprive IEPA of authority to consider need for the proposed Facility, IEPA was entitled to point to that legislative decision as a factor in its decision not to exercise its discretion to redefine the source and engage in a broad "needs" analysis. For these reasons, we conclude that IEPA's error in stating that it did not have authority to consider "need" does not warrant remand of IEPA's permitting decision in the present case.

2. *BACT Step 2: The Question of Technical Feasibility (IGCC Technology)*

Potentially applicable control technologies identified at step 1 of the top-down method are further evaluated at step 2 in order to eliminate any potentially applicable methods that are not technically feasible. NSR Manual at B.7, B.17-.22. This second step involves first determining for each technology whether it is "demonstrated," which means that it has been installed and operated successfully elsewhere on a similar facility, and if not demonstrated, then whether it is both "available" and "applicable." *Id.* at B.17. The NSR Manual explains:

> [A] technology is considered "available" if it can be obtained by the applicant through commercial channels or is otherwise available within the common sense meaning of the term. An available technology is "applicable" if it can reasonably be installed and operated on the source type under consideration.

NSR Manual at B.17.

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[33] In *EcoEléctrica*, we noted that the Board's decision in *In re SEI Birchwood, Inc.*, 5 E.A.D. 25 (EAB 1994), was based upon the rationale expressed in *Kentucky Utilities*, namely that the question of need "would 'more appropriately' be addressed by the responsible State agency." *EcoEléctrica, LP*, 7 E.A.D. at 74 n.25. Thus, *SEI Birchwood* did not prohibit consideration of need, but instead merely declined to find an abuse of discretion or other grounds for remand on the facts of the case.

At step 1 of the top-down method, IEPA's BACT analysis treated IGCC[34] as a potentially applicable process alternative for controlling emissions of SO_2 and NO_X. Project Summary at 6, 8; Response to Comments at 6, 19-21. IEPA also specifically concluded that IGCC technology is "technically feasible." Response to Comments at 19. Nevertheless, IEPA excluded IGCC from further BACT analysis without including IGCC in either the ranking of control technologies required under step 3 or the detailed cost-effectiveness analysis required under step 4. *Id.* Petitioners argue that IEPA erred as a matter of law in rejecting IGCC from complete BACT review for controlling NO_X and SO_2 given that IEPA specifically found IGCC to be technically feasible. Petition at 26-31.

Upon consideration, however, we find no clear error in IEPA's decision to reject IGCC under the NSR Manual's guidance for step 2 of the top-down method. Although the NSR Manual generally counsels in favor of a full and detailed impacts analysis at step 4 for each control alternative found to be technically feasible at step 2, the NSR Manual does describe one narrow exception allowing an otherwise technically feasible control alternative to be eliminated at step 2 from further consideration. In particular, a full analysis is not required where control options are, in effect, redundant (in other words, where there are two or more alternatives with comparable control efficiencies, only one of the alternatives must be fully analyzed). NSR Manual at B.20-.21. The NSR Manual explains as follows:

> A possible outcome of the top-down BACT procedure discussed in this document is the evaluation of multiple control technology alternatives which result in essentially equivalent emissions. It is not EPA's intent to encourage evaluation of unnecessarily large numbers of control alternatives for every emissions unit. Consequently, judgment should be used in deciding what alternatives will be evaluated in detail in the impacts analysis (Step 4) of the top-down procedure discussed in a later section. For example, if two or more control techniques result in control levels that are essentially identical considering the uncertainties of emissions factors and other parameters pertinent to estimating performance, the source may wish to point this out and make a case for evaluation of only the less costly of these options. The scope of the BACT analysis should be narrowed in this way only if there is a negligible difference in emissions and collateral environmental impacts between control alternatives.

[34] The parties have sometimes referred to this as Integrated Gasification Coal Combustion.

NSR Manual at B.20-.21. IEPA's rationale in the present case for rejecting full evaluation of IGCC falls within this guidance and we conclude that IEPA's analysis is therefore not clearly erroneous.

IEPA explained that the record evidence shows that IGCC's achievable control effectiveness, at this time, is similar to the control alternatives Prairie State proposed as BACT and selected as the top alternative. In particular, IEPA stated that "[a] review of the small number of existing IGCC projects indicates that IGCC achieves NO_X emission rates that are similar to those achieved by new power plants with boilers that directly fire coal." Project Summary at 7. IEPA also stated that "[a]vailable information does not indicate that existing IGCC plants are achieving substantially lower SO_2 emission rates than would be required of the proposed boilers." Project Summary at 9. In responding to public comments, IEPA stated further that the promise of significantly lower emissions rates "has not been demonstrated by the IGCC development projects supported by USDOE." Response to Comments at 19.

Petitioners have not demonstrated, or even alleged in their Petition, any error in IEPA's conclusion that IGCC's control effectiveness is comparable to the technology IEPA selected as BACT. Petition at 22-31; Petitioners' Reply at 6-8.[35] Upon consideration, we note that, in light of the NSR Manual's guidance that the permit issuer's analysis of the effectiveness of potentially redundant control options may take into account "the uncertainties of emissions factors and other parameters pertinent to estimating performance," NSR Manual at B.21, a challenge to IEPA's finding would require a detailed and specific explanation of IEPA's alleged error. Petitioners have not made any demonstration of this kind. Accordingly, upon the record of this case, we find no clear error in IEPA's conclusion that achievable NO_X and SO_2 emissions limits are comparable using either the control methods IEPA selected or that of IGCC.

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[35] We reject Petitioners' assertion made in footnote 8 of their Reply that IEPA's argument in its Response to the Petition was the first time IEPA expressed the view that "'Prairie State's emission limits are comparable to IGCC plants.'" Petitioners' Reply at 6 n.8 (quoting IEPA's Response at 48). As noted in the text, IEPA made this finding in the Project Summary and again in its Response to Comments. Project Summary at 9; Response to Comments at 19. IEPA, nevertheless, also recognized that development and improvement of IGCC technology continues and that, in theory, IGCC will in the future be able to achieve "significantly better control of SO_2." Calculation Sheet at 10; *see also* Response to Comments at 19 ("Significantly lower emission rates are certainly the promise of IGCC."). IEPA's comments in this regard appropriately recognize that BACT determinations must be made on a case-by-case basis and upon the record as developed in the case at hand. *See In re Cardinal FG Co.*, 12 E.A.D. 153, 161 (EAB 2005) ("BACT is a site-specific determination resulting in the selection of an emission limitation that represents application of control technology appropriate for the particular facility."); *see also In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 47 (EAB 2001); *Knauf*, 8 E.A.D. 121, 128-29 (EAB 1999).

Given IEPA's finding regarding the comparable control effectiveness of IGCC to the technology IEPA selected for control of SO_2 and NO_x, the NSR Manual's guidance authorized IEPA to reject IGCC without the full cost-effectiveness analysis that would otherwise be required under step 4. NSR Manual at B.20-.21. The NSR Manual states that the permit applicant may "make a case for evaluation of only the less costly" of the redundant options. *Id.* at B.21.[36] Here, IEPA found that IGCC is the more costly of the two options in several financial respects. IEPA found that "[t]he higher costs and the uncertainties associated with IGCC would prevent the proposed plant from being developed." Project Summary at 7; *see also* Calculation Sheet at 8 ("IGCC technology cannot be considered a commercially viable technology for the proposed plant because of the issues it would present to the successful financing of the plant."). IEPA also stated that "an IGCC plant would have a cost, expressed as an annual operating cost that is significantly higher than the cost of the proposed plant" and that "IGCC is commonly recognized as having a capital cost that is at least 20 percent higher than that of pulverized coal boilers." Response to Comments at 20. Petitioners have not challenged the factual basis for these conclusions. Petition at 22-31; Petitioners' Reply at 6-8.

Petitioners contend instead that (1) a control technology cannot be rejected based on the unavailability of financing, Petition at 27; (2) the possibility of public subsidies or governmental financing should have been considered, *id.* at 27-28; (3) an application has been filed for a privately funded IGCC facility, *id.* at 30; and (4) financing uncertainty is speculative, *id.* at 29. Each of these arguments fails to recognize that, under the NSR Manual's guidance, a detailed financial impacts analysis is not required where one of several comparably effective, or redundant, technologies is being eliminated at step 2 of the top-down method. In other words, Petitioners' arguments do not speak to IEPA's rationale that a detailed analysis is not required because demonstrated IGCC control effectiveness is comparable to other less expensive and less uncertain control methods included in the full BACT analysis. Moreover, each of Petitioners' arguments also fails to recognize that uncertainty of financing was not the only cost consideration identified by IEPA – IEPA also noted that IGCC "is commonly recognized as having a capital cost that is at least 20 percent higher than that of pulverized coal boilers." Response to Comments at 20. Accordingly, we find no clear error in IEPA's ratio-

[36] We reject Prairie State's argument that IEPA's finding regarding the comparable control-effectiveness of IGCC "alone would be sufficient to justify selecting [pulverized coal] technology over IGCC as BACT since IGCC ranked no higher than [pulverized coal] technology." Prairie State's Response at 38. As is evident from the NSR Manual's guidance, the permit applicant must still "make a case for evaluation of the less costly" comparable control-effectiveness technology. NSR Manual at B.21. All of the factors considered at step 4 of the top-down method may provide a basis for the permit issuer to require either of the comparable technologies to be selected and, thus, the permit applicant must make a case for selecting the less costly technology.

nale for determining at step 2 of the top-down method not to require a full cost-effectiveness and impacts analysis of IGCC.

3. *BACT Step 4: Consideration of Cost, Energy, and Environmental Impacts (Coal Washing, Dry Cooling & Concern for the Eastern Narrow Mouth Toad)*

In the fourth step of the top-down BACT analysis, the energy, environmental, and economic impacts of each technology are considered and the top alternative is either confirmed as appropriate or is determined to be inappropriate. NSR Manual at B.29. Petitioners raise issues at step 4 regarding two technologies that they argue should not have been eliminated from the BACT analysis for controlling emissions from different parts of Prairie State's facility, and Petitioners raise concerns regarding whether the technology selected for controlling SO_2 emissions will have a significant environmental impact. First, Petitioners contend that IEPA should not have eliminated coal-washing as a potential additional method for controlling SO_2, NO_X, and PM emissions from the coal-fired boilers. Petition at 51.[37] Second, Petitioners argue that "dry cooling" should not have been eliminated by IEPA as an alternative technology for control of PM emissions from the cooling towers. Petition at 87-89. Third, Petitioners argue that the technology selected for controlling SO_2 emissions may have a significant impact on the Eastern Narrow Mouth Toad, which is listed by Illinois as an endangered species under state law. As we explain below, we reject Petitioners' arguments regarding these technologies.

a. *Coal Washing (Coal-Fired Boiler Emissions)*

Petitioners argue that IEPA improperly rejected use of coal-washing as an additional method for controlling SO_2, NO_X, and PM emissions from Prairie State's proposed coal-fired boilers. Petition at 50-56. IEPA described coal washing as follows:

> Coal washing is a potential method for reducing SO_2 emissions from the boilers as it would reduce the amount of sulfur contained in the coal. Washing would entail further wet processing of the coal stream after the rotary breaker, which separates rock from the mined coal. The washing process for Illinois coal involves processing the coal with water in jigs or tables to separate impurities from the coal, based upon relative density, as coal is less dense than the impurities. This process reduces the sulfur

[37] Petitioners also suggest, without any supporting detail, that coal washing would reduce mercury emissions. Petition at 56.

> content of the coal fuel as some sulfur is contained in the impurities rather than in the coal itself. The waste streams from this process are liquid slurry made up of water and impurities and course materials that can be handled in solid form.

Project Summary at 7-8. In responding to public comments, IEPA stated that "[s]ignificant reductions in emissions of pollutants other than SO_2 cannot be demonstrated to occur or reasonably be assumed to occur with coal washing if it were to be applied to the proposed plant." Response to Comments at 29.

Petitioners raise essentially two distinct objections to the Permit's conditions relative to washed coal. Petitioners first note that IEPA's permitting decision authorizes Prairie State, "'during extended interruption in the mine-mouth coal supply,'" to burn in the Facility's boilers washed coal that is produced off-site. Petition at 51 (quoting Permit, pt. I.3.a.ii). Petitioners object that this Permit condition is ambiguous and does not contain restrictions sufficient to prevent Prairie State from circumventing the PSD requirements by burning only off-site washed coal for an extended time without applying for a PSD permit authorizing this operational change. *Id.* at 51. Petitioners also argue that the Permit should have required Prairie State to burn only washed coal in the Facility's boilers (i.e., to require Prairie State to wash the mine-mouth coal). *Id.* at 51-56. Petitioners argue that since approximately 80 % of eastern bituminous coal is washed, rather than burned unwashed as it would be here, IEPA was not allowed to eliminate coal washing from the BACT analysis without a demonstration of "unusual circumstances" at Prairie State's Facility. *Id.* at 51-54. Petitioners argue that IEPA's additional impacts analysis at step 4 of the top-down process did not demonstrate unusual impacts compared to those at other facilities and failed to consider other benefits of washed coal. Petition at 54-56. Upon consideration, however, we find no clear error in IEPA's decision both to allow the burning of off-site washed coal in limited circumstances and to not require Prairie State to wash all coal used in the Facility.

i. *Coal Washing as an Additional Control*

Petitioners' argument that coal washing should be required must be placed in proper context. In particular, IEPA concluded, and Petitioners have not disputed, that coal washing as a method for controlling emissions is an "inferior control technology" because "coal washing, by itself, is not able to comply with applicable requirements for SO_2." Response to Comments at 34; *see also id.* at 26. In other words, coal washing is not the top control alternative because coal washing, on its own, could not achieve the 98% SO_2 removal that the Permit requires based on Prairie State's use of post-combustion controls. Likewise, IEPA observed that coal washing, on its own, is not the most effective control alternative for pollutants other than SO_2. *Id.* at 28 (mercury); *id.* at 28-29 (other pollutants). Petition-

ers have not argued that these conclusions are erroneous. Thus, with respect to Petitioners' argument that Prairie State should be required to wash all coal, the only question is whether IEPA clearly erred by concluding that coal washing would not be required as an additional control method to be used in combination with post-combustion controls as a means for further reducing SO_2 emissions beyond the 98% removal required by the Permit, or of obtaining a marginal further reduction of other pollutant emissions.

In this context, IEPA's analysis of coal washing as a supplemental control method proceeded on two fronts simultaneously: IEPA analyzed the potential benefits of coal washing and the potential impacts. With respect to potential benefits, IEPA stated that significant further reduction in SO_2 emissions "cannot be assumed to result from the use of coal washing." Response to Comments at 30. IEPA endorsed as "not an unreasonable position" Prairie State's analysis stating that "coal washing will at most provide a very small additional reduction in SO_2 emissions, given the high efficiency of the scrubbers." *Id.* at 33-34. In essence, because the post-combustion scrubbers are able to remove 98% of the SO_2, IEPA was not convinced that removal of a portion of the sulfur content of the coal prior to combustion would result in materially lower over-all SO_2 emissions after the post-combustion controls are used. IEPA also concluded that "[s]ignificant reductions in emissions of pollutants other than SO_2 cannot be demonstrated to occur or reasonably be assumed to occur with coal washing if it were to be applied to the proposed plant." Response to Comments at 29.

With respect to the cost, energy and environmental impacts, IEPA found that coal washing would entail significant burdens. Specifically, IEPA stated that "[c]oal washing has costs," which would include "[a]t a minimum, * * * costs for construction and operation of a coal washing facility." *Id.* at 27. With respect to energy impacts, IEPA explained that "[c]oal washing is accompanied by a substantial loss of coal material with the coal waste." *Id.* at 31. IEPA found that "[w]hile washing is effective in removing rock inclusions from coal, including sulfur-bearing pyrites, a significant amount of coal is also lost with the waste." Project Summary at 8. IEPA, thus, noted that "an inherent consequence of coal washing, in addition to wastewater and solid waste, would be the need for Prairie State to mine and process significantly more coal to make up for that lost in the washing process and for the loss of heat content due to water added to the coal fuel." *Id.* at 8. In particular, IEPA noted that "22 to 25 percent of the input coal is lost with the waste" and that "[t]o make up for that loss, over 500 additional tons of coal would have to be mined for each ton of equivalent SO_2 emissions removed from the coal, or an additional 1.3 million tons of coal each year based on the

capacity of the proposed plant." *Id.*[38] In sum, IEPA concluded, "The theoretical benefits of coal washing as a supplemental technique with the necessary add-on control devices are outweighed by the cost, energy and environmental impacts of coal washing." Response to Comments at 26.

Petitioners have not demonstrated any clear error in IEPA's analysis of the record evidence of coal washing's minimal benefits and extensive impacts. In particular, Petitioners have not shown any clear error in IEPA's determinations that "coal washing will *at most provide a very small additional reduction* in SO_2 emissions, given the high efficiency of the scrubbers," Response to Comments at 33-34 (emphasis added), and that "[s]ignificant reductions in emissions of pollutants other than SO_2 cannot be demonstrated to occur or reasonably be assumed to occur with coal washing if it were to be applied to the proposed plant," *id.* at 29. Petitioners have alleged that coal washing would remove from the coal prior to combustion 179,389 tons of SO_2 and more than one million tons of PM per year. Petition at 56. Petitioners, however, have not pointed to any record evidence showing that removal of these pollutants prior to combustion would result in materially lower emissions after application of the post-combustion controls that Prairie State will use to achieve the BACT limits required by the Permit.[39] In other words, Petitioners have not shown, based on record evidence, that coal washing would result in more stringent achievable emissions limits. Because we find no clear error in IEPA's conclusions that further reductions cannot be assumed to occur, we must dismiss Petitioners' contention that IEPA's rejection of coal washing was "the elimination of the more effective alternative(s) as BACT." NSR Manual at B.29. Consequently, we also reject Petitioners' contention that Agency guidance would require a heightened burden on Prairie State to use coal

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[38] IEPA also noted that coal washing would result in a waste stream in the form of a "liquid slurry made up of water and impurities and course material that can be handled in solid form." Project Summary at 8. Petitioners argue on appeal that methods are available for reducing the environmental impact of this waste stream. *See* Petition at 54-55 (discussing water recycling, thickeners and belt presses, and procedures for restoring and reclaiming gob piles and slurry ponds). As we explain below, Petitioners have not demonstrated an identifiable benefit in emissions reductions to justify requiring Prairie State to employ these additional processes and equipment.

[39] Petitioners allege that coal washing would remove 179,389 tons of SO_2 and more than one million tons of PM per year before combustion, but fail to explain how these figures impact, if at all, post-combustion emission levels. Given the SO_2 and PM removal efficiency of the post-combustion controls, the Permit's BACT limits translate into maximum potential annual emissions that are only a small fraction of the coal's sulfur and ash content. The Permit limits for SO_2 and PM translate into maximum potential annual emissions of 980 tons of PM, 2,286 tons of PM_{10}, and 11,866 tons of SO_2. Calculation Sheet at 1. Thus, Petitioners' argument regarding significant pollutant removal before combustion cannot be directly translated into similar reduction in emissions after application of the post-combustion controls. Accordingly, Petitioners' argument is not sufficient to demonstrate clear error in IEPA's response to comments that "coal washing will at most provide a very small additional reduction in SO_2 emissions." Response to Comments at 33-34.

washing unless it can demonstrate "unusual circumstances" distinguishing its Facility from others where coal washing is used.

Moreover, Petitioners have not shown clear error in IEPA's central conclusion that any benefits of coal washing are outweighed by coal washing's cost, energy, and environmental impacts. Petitioners have failed to challenge IEPA's conclusion that benefits cannot be assumed to occur, and further, Petitioners have not disputed IEPA's specific findings regarding the significant additional facilities and equipment that would be required to wash the coal and, to the extent possible, recapture coal removed during the washing process. Indeed, Petitioners identify many of these facilities and equipment in their Petition when discussing the available methods for avoiding environmental impacts of coal washing. *See* Petition at 54-55 (discussing water recycling, thickeners and belt presses, and procedures for restoring and reclaiming gob piles and slurry ponds). What Petitioners' argument fails to recognize is that step 4 of the top-down method focuses on the energy, environmental, and economic impacts of alternative technologies and allows a technology to be eliminated where benefits do not outweigh the impacts. In short, there must be some identifiable benefit in emissions reduction to justify requiring Prairie State to employ the identified additional facilities and equipment. Because Petitioners have not identified any record evidence demonstrating emissions reductions achievable through coal washing beyond the emissions limits achievable through use of the post-combustion controls identified in IEPA's BACT analysis, and because Petitioners do not dispute that coal washing entails significant cost and energy impacts, we find no clear error based on the record of this case in IEPA's conclusion that the significant costs outweigh any benefit of coal washing. Accordingly, Petitioners have failed to demonstrate clear error in IEPA's decision to reject coal washing as an additional or supplemental control method.

ii. *Temporary Use of Washed Coal*

Petitioners note that IEPA's permitting decision authorizes Prairie State to burn washed coal that is produced off-site "'during extended interruption in the mine-mouth coal supply.'" Petition at 51 (quoting Permit at 9). Petitioners object that this Permit condition is ambiguous and does not contain restrictions sufficient to prevent Prairie State from circumventing the PSD requirements by burning only off-site washed coal under circumstances when Prairie State should applying for a PSD permit authorizing the operational change. *Id.* at 51. Petitioners also argue that the Permit's authorization for burning off-site washed coal during "interruptions 'caused by events or circumstances that could not have been reasonably prevented by the Permittee, its contractors, or any entity controlled by the Permittee,'" is overly broad. *Id.* (quoting Permit at 9). Petitioners argue that Prairie State "could use this clause to gain advantage in labor negotiations or to gain a business advantage in the market place, events that do not warrant exceptions from compliance with a PSD permit." *Id.*

Petitioners' arguments, however, do not establish grounds for review and therefore must fail. We reject Petitioners' argument that the limited authorization for burning off-site washed coal during periods of extended interruption in the mine-mouth coal supply is overly broad or could be used by Prairie State to circumvent the PSD permitting requirements. By the Permit's terms, the interruption must be outside of Prairie State's control and Prairie State must be actively working towards restoring the coal supply within a reasonable period of time. Specifically, the authorization is limited to an interruption "caused by events or circumstances that could not be reasonably prevented" by Prairie State and it must be a longer interruption than routinely occurs in mining (for which Prairie State could stockpile coal). Permit at 9, ¶ 1.3.a.ii.A. To continue to qualify for the authorization, Prairie State "must be undertaking a program to restore the coal supply * * * in a reasonable period of time that is consistent with the efforts needed to restore such coal supply." *Id.*, ¶ 1.3.a.ii.B. This authorization does not allow a permanent change in operation of the coal-fired boilers,[40] and it does not relieve Prairie State from compliance with any BACT emissions limit or other permit conditions, except allowing Prairie State to burn washed coal obtained from a source other than the mine-mouth under limited circumstances. To the extent that an interruption in the mine-mouth coal supply may be permanent, the authorization would lapse because Prairie State could not comply with the requirement that it must be working on restoring the supply within a reasonable time.

We also reject Petitioners' argument that Prairie State may somehow gain an inappropriate advantage in either labor negotiations or the market. Petition at 51. Issues raised in a petition for review will be considered only to the extent that the issues are within the Board's jurisdiction, which is limited to consideration of matters under the federal PSD regulations. *E.g., In re Zion Energy, LLC*, 9 E.A.D. 701, 706 (EAB 2001); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 127 (EAB 1999). Board jurisdiction only extends to issues that relate to explicit requirements of the PSD regulations or the CAA's PSD provisions or that are "otherwise linked to the federal PSD program." *Knauf*, 8 E.A.D. at 162; *see also In re Tondu Energy Co.*, 9 E.A.D. 710, 716-17 (EAB 2001) (rejecting consideration of state law issues); *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 259-60 (EAB 1999) (declining to review noise and water related issues). As we observed in Part II.B.2.b in our discussion of section 165(a)(2)'s authorization to consider "alternatives," the purpose of the public comments must be to achieve objectives related to air quality, and, in this context, the public commenters' objectives must relate to the factors identified in the statutory definition of BACT. In the present case, Petitioners have not demonstrated, and it is not apparent to us, how their arguments regarding labor negotiations or market advantage relate to requirements of the federal PSD program so as to be cognizable in this proceed-

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[40] *See* NSR Manual at A.46, B.74 (noting that a change in fuel may be an operational change requiring PSD review).

ing. Significantly, as to air quality considerations, Petitioners, as part of the same argument, contend that washed coal "could, of course potentially allow lower SO_2, NO_X, and PM_{10} emissions." Petition at 51. Accordingly, we deny review on the grounds that we do not have jurisdiction to consider these arguments.

b. *Dry Cooling as a Cooling Tower Technology*

Petitioners raise issues at step 4 pertaining to "dry cooling" as an alternative cooling tower technology for control of PM emissions from the cooling towers. Petition at 87-89. This is the only BACT issue Petitioners raise that pertains to a control technology applicable to emissions from the Facility that are not emitted by the coal-fired boilers.

Comments submitted during the public comment period argued that wet cooling towers produce emissions of PM_{10} and that those emissions could be reduced by use of dry cooling instead. IEPA responded by acknowledging that dry cooling is a demonstrated technology that is technically feasible, but rejected requiring dry cooling because of "its effect on energy efficiency." Response to Comments at 111. IEPA also explained that the "additional power required for dry cooling would act to increase emissions of pollutants other than PM." *Id.* IEPA stated further that "if dry cooling would lower the plant's efficiency by more than a few percent, the net effect of using dry cooling would also be to increase emissions of PM, as well as other pollutants." *Id.*

Petitioners argue that IEPA did not perform a sufficiently detailed analysis of dry cooling as an alternative to wet cooling towers. In particular, Petitioners argue that "dry cooling offers multiple benefits over wet cooling, including significantly reducing PM emissions and a 95-98 percent reduction in water use." Petition at 87. Petitioners argue that IEPA rejected these comments without sufficient analysis and without sufficient record support for its response to comments. *Id.* at 87-88.

Upon consideration, we conclude that Petitioners have not demonstrated clear error in IEPA's permitting decision. In so holding, we recognize, however, that IEPA's analysis of the dry cooling issue is less than optimal. Petitioners are correct in observing that the NSR Manual counsels that if there is an "energy penalty" associated with a particular technology, the penalty "should be quantified." NSR Manual at B.29. The NSR Manual states further that "[b]ecause energy penalties or benefits can usually be quantified in terms of additional costs or income to the source, the energy impacts analysis can, in most cases, simply be factored into the economic impacts analysis." *Id.* IEPA's analysis of dry cooling did not follow this guidance, but instead IEPA provided a narrative discussion stating that "[t]he additional power required for dry cooling would act to increase emissions of pollutants other than PM." Response to Comments at 111. IEPA stated further that "[i]f dry cooling would lower the plant's efficiency by more

than a few percent, the net effect of using dry cooling also would be to increase emissions of PM, as well as other pollutants." *Id.* This narrative analysis, without supporting detail, is less than we would normally expect of a full step 4 cost, energy, and environmental impacts analysis. *See, e.g.*, *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 202-207 (2000); *In re Masonite Corp.*, 5 E.A.D. 551, 564-69 (EAB 1994); *In re Inter-Power of N.Y., Inc.*, 5 E.A.D. 130, 135-36, 145-50 & n.33 (1994).

Nevertheless, in this instance, we do not find clear error in IEPA's decision to reject dry cooling. "For a remand, there must be a compelling reason to believe that the omissions led to an erroneous permit determination – in other words, that they materially affected the quality of the permit determination." *In re Mecklenburg Cogeneration L.P.*, 3 E.A.D. 492, 494 n.3 (Adm'r 1990); *see also In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 191 (EAB 2000) ("[W]e have not been presented with a compelling reason to believe that [the permit issuer's] failure to explain its total PM limit calculus led to a clearly erroneous permit decision."). Here, Petitioners have not taken the additional step that they are required to do, which is to put before the Board evidence that the facts are contrary to the reasoning stated in IEPA's narrative analysis. Petitioners have not directed us to any evidence, in the record or otherwise,[41] showing that IEPA's concern regarding increasing emissions of both PM and other pollutants as a result of the energy penalty is erroneous. In this regard, we note that the Agency made a finding under the Clean Water Act in a different context estimating significant energy penalties associated with dry cooling and that the capital costs for construction and costs of operation are significantly higher than the costs for wet cooling. *National Pollutant Discharge Elimination System: Regulations Addressing Cooling Water Intake Structures for New Facilities*, 66 Fed. Reg. 65,256, 65,282-83 (Dec. 18, 2001);[42] *see also In re South Shore Power, LLC*, PSD Appeal No. 03-02, at 27 (EAB June 4, 2003) (Order Denying Review) (quoting permit issuer's identification of the "myriad factors" favoring wet cooling). When we grant review, we do not do so lightly, but instead do so only when we are convinced that the identified error may alter the permitting decision. Petitioners here simply have not persuaded us that review and remand might produce a different result.

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[41] Because IEPA's analysis explaining why it was rejecting dry cooling was not provided in the record prior to the public comment period, but instead was provided for the first time in response to comments, IEPA's reasoning was not ascertainable before the close of public comment and may be challenged for the first time on appeal. 40 C.F.R. §§ 124.13, .19.

[42] A notice of final rulemaking published in the Federal Register is appropriate for consideration in a part 124 proceeding even if not part of the record of the case. *See In re Dominion Energy Brayton Point, LLC*, 12 E.A.D. 490, 612 n.195 (EAB 2006).

c. *BACT Step 4 Issues Concerning the Eastern Narrow Mouth Toad*

Petitioners raise two distinct, yet related issues concerning the proposed Facility's potential collateral or indirect impacts on the Eastern Narrow Mouth Toad, which is designated as a threatened species under applicable Illinois law.[43] Petition at 5-8. The Petitioners argue that "reasonable protections for the endangered toad" were not provided, and that concerns were not disclosed to the public. *Id.* at 5, 8.

With respect to the first of these issues, Petitioners contend that the Facility will use approximately one million tons of limestone per year in operating the technology designated as BACT for controlling SO_2 emissions. *Id.* at 5. Petitioners contend that Prairie State's purchase of limestone may destroy habitat of the Eastern Narrow Mouth Toad if the limestone seller mines the limestone from an area that is habitat for the toad. *Id.* at 6-8. Petitioners argue that this "potential collateral impact of using locally-mined limestone" should have been considered as part of the BACT review of technology for the control of SO_2 emissions. *Id.* at 8 (citing NSR Manual at B.47).

Petitioners admit that "[t]his is a new issue not previously raised in public comments or described by IEPA in any of its public documents." Petition at 5. Petitioners contend that they identified the issue when reviewing the administrative record at some time after March 2005. *Id.* at 6.[44] Petitioners state that the administrative record contained a copy of an e-mail from IEPA to Prairie State stating that the issue was raised in a draft biological opinion prepared by the Illinois Department of Natural Resources ("IDNR"). *Id.* Petitioners note that IDNR did not raise the concern in the final biological opinion, and they argue that IDNR's subsequent refusal to release the draft biological opinion "violate[s] basic PSD public participation requirements," including the purpose of the CAA to assure that any decision to issue a PSD permit "is only made after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decisionmaking process." *Id.* at 7-8 (citing 42 U.S.C. § 7470(5)). Petitioners argue further that a copy of an e-mail they obtained from an IDNR staff member "strongly indicat[es] that high-level state officials rewrote a draft biological opinion – over the objection of Illinois DNR's expert staff – to remove any reference to the toad before releasing the final

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[43] The Eastern Narrow Mouth Toad is designated a threatened species under state but not federal law. 520 Ill. Comp. Stat. 10 (2005).

[44] Petitioners state that they reviewed the record "following the Board's remand of the first [Prairie State] permit." Petition at 5. The Board issued its remand decision on March 25, 2005. *In re Prairie State Generation Station*, PSD Appeal No. 05-02 (EAB Mar. 25, 2005), 12 E.A.D. 176.

biological opinion to the public." Petition at 5.[45]

Upon consideration, we conclude that Petitioners have not established grounds for us to grant review of IEPA's permitting decision based on these two distinct, yet related issues regarding notice to the public and protection of the Eastern Narrow Mouth Toad. As to their substantive claim, Petitioners fail to demonstrate how IEPA erred in its BACT analysis of the proposed control technology's "significant or unusual environmental impacts." NSR Manual at B.47. As to Petitioners' procedural claim of lack of public notice, as we discuss below, we conclude that Petitioners do not raise substantial new questions that warrant a reopening of the comment period, and we find no error in IEPA's failure to do so. Petition at 5.

Petitioners' argument that the permit is deficient on the grounds that it allegedly does not provide "reasonable protections for the endangered toad" is in error. IEPA observed that Prairie State was proposing to use "the most effective SO_2 control system," which IEPA stated would be approved as the basis for establishing the BACT emission limit. Project Summary at 9. In analyzing the proposed SO_2 control technology, IEPA must identify and consider any "significant or unusual environmental impacts associated with a control alternative that have the potential to affect the selection or elimination of a control alternative." NSR Manual B.47. This analysis is to be performed at step 4 of the top-down BACT method and may result in the top control option being eliminated from BACT. *Id.* at B.8-9.

Here, IEPA's reliance on IDNR's biological opinion, and on IEPA's ultimate conclusion that the proposed technology does not pose a "significant or unusual environmental impact," is supported by the facts of this case and does not constitute error. At the time that the draft permit was issued for public comment, the IDNR had not yet issued its draft biological opinion. After the close of the public comment period, and before the issuance of the final permit, Illinois issued a draft, as well as the final, biological opinion. Letter from Todd Rettig, Manager Division of Resource Review and Coordination, IDNR, to Laurel Kroack, Division of Air Pollution Control, IEPA (Nov. 1, 2004). IDNR concluded in its final biological opinion that any impacts from Prairie State's Facility "are not likely to jeopardize a listed species or its essential habitat." *Id.*[46] The record indicates, as

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[45] While IDNR's ultimate determination may have been the subject of internal debate, this alone is insufficient to cause us to question the integrity of the agency's report.

[46] To the extent that Petitioners seek to challenge IDNR's conclusion and final biological opinion, apart from IEPA's Step 4 BACT analysis, such a challenge is not properly before this Board. *In re Metcalf Energy Ctr.*, PSD Appeal Nos. 01-07, -08, at 42-43 (EAB Aug. 10, 2001); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 161-62 (EAB 1999); *In re W. Suburban Recycling & Energy Ctr. L.P.*, 6 E.A.D. 692, 704 (EAB 1996).

stated in Petitioners' brief, that IEPA staff were in communication with IDNR staff about the progress and direction of the IDNR analysis. Petition at 5-6; IEPA Response at 12-13. Electronic mail exchanges between IEPA and Prairie State were included in the administrative record and demonstrate that IEPA did consider the question of any impact to the toad's habitat from Prairie State's proposed Facility and in particular from the mining of limestone for use by the Facility. *See* E-mail from Laurel Kroack, Director, Division of Air, IEPA, to Dianna Tickner, Prairie State (Sept. 28, 2004); *see also* E-mail from Laurel Kroack, Director, Division of Air, IEPA, to Dianna Tickner, Prairie State (Sept. 10, 2004); E-mail from Dianna Tickner, Prairie State, to Laurel Kroack, Director, Division of Air, IEPA (Sept. 10, 2004). Even if the mining of limestone that is subsequently purchased by the Facility constitutes a "secondary environmental impact" within the meaning of the NSR guidance, an issue that we do not reach here, IEPA considered this information, relied on IDNR's determination that "impacts resulting from the proposed action are not likely to jeopardize a listed species or its essential habit," and therefore did not alter its previous conclusion that the proposed "most effective control system"[47] did not present a "significant or unusual environmental impact." NSR Manual at B.47. We do not find error in IEPA's conclusion based on these facts.

Petitioners' procedural complaint that the comment period should be reopened to provide notice of IDNR's biological opinion is also unpersuasive. Petitioners never articulate the test for determining whether the public comment period should be reopened to provide notice for new information arising following the close of public comment. As we explain below, whether the public should be provided an opportunity to comment on new information received after the close of the public comment period is a matter generally left to the permit issuer's discretion when the information raises "substantial new questions concerning the permit" and reopening the public comment period could expedite the decisionmaking process. We conclude that Petitioners have not shown that IEPA abused its discretion in the present case by not reopening the public comment period.

The regulations governing this proceeding, 40 C.F.R. part 124,[48] contemplate a multi-staged process for the accumulation of evidence upon which the final permit decision is to be based.[49] That process includes a time-gap for evaluation of the evidence during which the permit issuer generally is not required to consider new information received after the close of the public comment period.

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[47] Project Summary at 9.

[48] The PSD regulations require that the permit application be processed under the Part 124 permitting rules. 40 C.F.R. § 52.21(q).

[49] We describe this multi-stage process for the permitting decision in greater detail below in Part II.B.5.d.i of this opinion.

E.g., In re Steel Dynamics, Inc., 9 E.A.D. 165, 194 n.32 (EAB 2000) ("Permitting authorities are under no obligation to consider comments received after the close of the public comment period."); *accord In re St. Lawrence County Solid Waste Disposal Auth.*, PSD Appeal No. 90-9, at 3 n.3 (Adm'r July 27, 1990) ("The close of the public comment period is an appropriate benchmark for closing the administrative record to receipt of new information."). As we observe below in Part II.B.5.d.i, a permitting decision is not to be reversed simply on the showing of some new evidence. *See, e.g., Vt. Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 554-55 (1978), *quoted in Pennsauken*, 2 E.A.D. at 671 n.11.

However, the part 124 regulations contemplate the addition of information to the record following the close of public comment as well as reopening the public comment period under certain circumstances. Specifically, the part 124 regulations authorize the permit issuer to add new information to the record in response to comments received, but those rules do not require the permit issuer to invite public comment on such new information added to the record after the close of public comment. *See* 40 C.F.R. §§ 124.17(b), .18(a)(4), (6). The Part 124 regulations do, however, state that, "if the procedures of this paragraph could expedite the decisionmaking process," the permit issuer "may" reopen the comment period when the comments received "raise substantial new questions concerning a permit." 40 C.F.R. § 124.14(a)(1), (b).[50] These rules do not directly address the issue at hand where new information is received not through public comment, but through a parallel process under state law. Here, we conclude that the standard articulated for reopening public comment – whether the post-comment information raises "substantial new questions concerning a permit" – appropriately applies by analogy[51] to these facts. 40 C.F.R. 124.14(a)(1), (b).[52]

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[50] Courts reviewing administrative decisionmaking in other contexts also have recognized that the agency may supplement the administrative record with new information, in part in response to comments, without opening public comment on the new information. *See, Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d 615, 632 (D.C. Cir. 1973) ("[T]he central technical issue on this appeal concerns the reliability of EPA's methodology. * * * [T]he failure to provide reasonable opportunity to comment on EPA methodology [does not] invalidate[] the EPA decision for lack of procedural due process, or similar contention * * * ."); *accord Pers. Watercraft Indus. Assoc. v. Dep't of Commerce*, 48 F.3d 540, 543-44 (D.C. Cir. 1995) (new information added to rulemaking record in response to public comments); *Kennecott v. EPA*, 780 F.2d 445, 460 (4th Cir. 1985), *cert. denied* 107 S. Ct. 67, 479 U.S. 814 (failure to identify each report which is ultimately used in making the final rule will not necessarily invalidate the rulemaking); *accord Pension Ben. Guar. Corp. v. LTV Corp.*, 496 U.S. 633, 655-56 (1990) (holding that the formal notice provisions of APA § 544 do not apply in informal adjudication).

[51] As the Supreme Court stated in *Vermont Yankee*, "[a]bsent constitutional constraints or extremely compelling circumstances the administrative agencies should be free to fashion their own rules of procedure and to pursue methods of inquiry" when making permitting decisions. *Vt. Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 543-44 (1978) (internal quotation omitted).

[52] By extending the permit issuer's discretionary authority to reopen the public comment period in such circumstances, we do not alter the requirement that commenters "must raise all *reasonable*

Continued

Turning to Petitioners' arguments in the present case, we conclude that Petitioners have not shown that IEPA abused its discretion by not reopening public comment based upon IDNR's biological opinion. Petitioners have not established that the IDNR's biological opinion raised a "substantial " question regarding the Permit. 40 C.F.R. § 124.14(b). Specifically, soon after this question was introduced into the record of this proceeding, IDNR issued its final biological opinion concluding that any impacts from Prairie State's Facility "are not likely to jeopardize a listed species or its essential habitat." Letter from Todd Rettig, Manager Division of Resource Review and Coordination, IDNR, to Laurel Kroack, Division of Air Pollution Control, IEPA (Nov. 1, 2004).[53] Petitioners have not identified on appeal any information that they would submit into the record, if it were reopened, to establish grounds for changing the Permit's terms. Instead, Petitioners simply imply that reopening the record might produce some speculative body of evidence. This is simply not a sufficient basis for introducing further delay in issuing the Permit at this late stage in the administrative decisionmaking process. Thus, we reject Petitioners contention that public comment must be reopened "to assure that any decision to permit increased air pollution in any [PSD] area * * * is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decisionmaking process." 42 U.S.C. § 7470(5). The procedures and notice to the public in the present case were more than adequate to assure careful evaluation of all the consequences of IEPA's permitting decision.

(continued)
and ascertainable issues and submit all reasonably available arguments supporting their position by the close of the comment period." 40 C.F.R. § 124.13 (emphasis added). In addition, as we have noted in prior cases, "[t]he critical elements of this regulatory provision are that new questions must be 'substantial' and that the [permit issuer] 'may' take action." *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 585 (EAB 1998), *review denied sub nom. Penn Fuel Gas, Inc. v. EPA*, 185 F.3d 862 (3d Cir. 1999); *accord In re Ash Grove Cement Co.*, 7 E.A.D. 387, 431 (EAB 1997).

[53] Notably, IEPA's September 28, 2004 e-mail to Prairie State, upon which Petitioners rely as evidence that a new question had been raised, specifically states that the draft IDNR biological opinion "will show not likely to adversely impact." E-mail from Laurel Kroack, Director, Division of Air, IEPA, to Dianna Tickner, Prairie State (Sept. 28, 2004). Thus, Petitioners have not identified any evidence that the potential impact to the toad's habitat was viewed as "substantial" when it was first introduced into the record.

The November 22, 2004 e-mail sent by an IDNR staff member, Keith Shanks, to the IDNR manager, Todd Rettig, objecting to changes made from the draft to final biological opinion, also does not show that concern regarding the toad's habitat was "substantial." *See* Petition, Ex.38. In addition, Petitioners' arguments regarding this e-mail would appear to be an effort to collaterally attack IDNR's final determination, which is a matter over which this Board does not have jurisdiction since it is governed by state law and is not a federal PSD issue. Specifically, IEPA entered into consultation with IDNR to satisfy a state law requirement under Ill. Admin. Code tit.17, § 1075. The Board's jurisdiction is limited to federal PSD issues, and the Board does not have jurisdiction to review such state law matters. *In re Metcalf Energy Ctr.*, PSD Appeal Nos. 01-07, -08, at 42-43 (EAB Aug. 10, 2001); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 161-62 (EAB 1999); *In re W. Suburban Recycling & Energy Ctr. L.P.*, 6 E.A.D. 692, 704 (EAB 1996).

For all of these reasons, we conclude that Petitioners have not sustained their burden to obtain review of either the "environmental impacts" BACT issue or the question of notice to the public, and accordingly we deny review of these issues.

4. *BACT Step 5: Establishing the Permit Limits (Achieved vs. Achievable Limits; Safety Factors; and Specific SO_2, NO_X and PM Issues)*

In step 5, the most stringent control alternative found at step 2 to be available and technically feasible and not eliminated in step 4 is selected. Because BACT "means an emission limitation," *see* 40 C.F.R. § 52.21(b)(12), rather than a particular pollution control technology, the permit issuer sets as BACT an emission limit or limits achievable by the facility using the selected emissions control alternative. *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 54 (EAB 2001); *see also* NSR Manual at B.53; *In re Hillman Power Co.*, 10 E.A.D. 673, 677 (EAB 2002).

In order to compare technologies or control alternatives that have a range of potential effectiveness at reducing pollutant emissions, the permit issuer must identify an expected performance level for each. NSR Manual at B.23. Disputes have arisen in cases where, as here, evidence in the record establishes a range of emissions rates for the most stringent control alternative and the permit issuer has, at step 5 of the top-down analysis, set the permit's BACT limit at a lower rate within the range than the petitioners believed appropriate. *E.g., In re Cardinal FG Co.*, 12 E.A.D. 153 (EAB 2005); *In re Kendall New Century Dev.*, 11 E.A.D. 40, 52 (EAB 2003); *In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 53 (EAB 2001); *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 188 (EAB 2000); *In re Knauf Fiber Glass, GmbH*, 9 E.A.D. 1, 15 (EAB 2000); *In re Masonite Corp.*, 5 E.A.D. 551, 560-61 (EAB 1994).

In the present case, Petitioners challenge IEPA's selection of the Permit's emissions limits for SO_2, NO_X and PM on three distinct grounds. First, Petitioners argue that when IEPA rejected more stringent emissions limits as not sufficiently demonstrated, IEPA impermissibly rewrote the statutory and regulatory language, changing the word "achievable" found in the statute and regulations to mean "achieved." Petition at 111. Second, Petitioners argue that IEPA improperly used so-called "safety factors" in explaining why the selected emissions limits are less stringent than the most stringent emissions rates demonstrated at other facilities. *Id.* at 45-48. Finally, Petitioners raise a variety of arguments specific to each pollutant that allegedly would support a finding that more stringent permit limits are achievable. For the following reasons, we conclude that Petitioners have not shown clear error in the BACT limits selected by IEPA for controlling emissions of SO_2, NO_X and PM.

a. *Petitioners*' *Argument that IEPA Changed* "*Achievable*" *to* "*Achieved*"

Petitioners argue that IEPA's rationale for rejecting more stringent limits was based on the premise that "an emission limit or control efficiency must have been achieved over a long period before it can be considered in a BACT determination." Petition at 111; *see also* Petitioners' Reply at 3. Petitioners argue that this rewrites the statutory and regulatory language by changing the word "achievable," which Petitioners contend means the potential to achieve in the future, to "achieved," which means accomplished in the past. Petition at 111. Petitioners argue that, thus, "IEPA sets its BACT limits so as to reflect only the long-term performance of old technology at existing plants, thereby eliminating the new, more effective pollution controls which Congress intended BACT to require." Petitioners' Reply at 4.

Petitioners argue that, contrary to IEPA's approach, "[i]t is not necessary that the limit has been proven by existing units over the long term." Petition at 111. They contend instead that BACT requires the "maximum degree of reduction" that is "achievable" and that Congress intended this provision to be "technology-forcing" to improve emissions control over time. Petitioners' Reply at 4 (citing *Ala. Power Co. v. Costle*, 636 F.2d 323, 372 (D.C. Cir. 1980)).

Petitioners' argument on this point, however, must fail. We recently considered and rejected a similar argument in *In re Newmont Nevada Energy Inv., L.L.C.*, 12 E.A.D. 429-443 (EAB 2005). In *Newmont,* we held as follows:

> [A] permit issuer may appropriately consider, as part of its BACT analysis, the extent to which available data in the record evidence the ability to consistently achieve certain emissions rates or control effectiveness of the selected technology or pollution control method. Accordingly, we hold that a permit issuer's rejection of a more stringent emissions limit based on the absence of data showing that the more stringent rate has been consistently achieved over time is not a per se violation of the BACT requirements. At the same time, however, the permit issuer is obliged to adequately explain its rationale for selecting a less stringent emissions limit, and that rationale must be appropriate in light of all evidence in the record.

Newmont, 12 E.A.D. at 440. Petitioners' arguments in the present case do not present grounds for us to depart from our holding in *Newmont.* As we explain below, Petitioners' arguments in the present case are, for the most part, identical to the arguments raised and rejected in *Newmont.*

The plain terms of the statute require that the "emissions limitation" be based on "the maximum degree of reduction of each pollutant" that "is achievable for such facility." 42 U.S.C.A. § 7479(3); *see also* 40 C.F.R. § 52.21(b)(12). Petitioners in the present case (like the petitioner in *Newmont*) are correct that statutory and regulatory terms, such as "maximum" and "achievable," constrain a permitting authority's discretion. *Newmont,* 12 E.A.D. at 440 (citing *Alaska Dep't of Envtl. Conservation v. EPA,* 540 U.S. 461, 485-89 (2004)). Indeed, Agency guidance specifically states that "[i]n the absence of a showing of differences between the proposed source and previously permitted sources achieving lower emissions limits, the permit agency should conclude that the lower emissions limit is representative for that control alternative." NSR Manual at B.24.

Petitioners are also correct that the word "achievable," as used in the statute and regulations, mandates a forward-looking analysis of what the facility can achieve in the future. As we noted in *Newmont,* "because BACT is a preconstruction site-specific determination, BACT review inherently requires a judgment regarding what can reasonably be expected in the future." *Newmont,* 12 E.A.D. at 440 (citing *In re Cardinal FG Co.*, 12 E.A.D. 153, 161 (EAB 2005); *In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 47 (EAB 2001); *In re Knauf Fiber Glass, GmbH,* 8 E.A.D. 121, 128-29 (EAB 1999); *In re CertainTeed Corp.*, 1 E.A.D. 743, 747 (Adm'r 1982)).

In *Newmont,* we concluded that the word "achievable" as used in the statute and regulations, "although forward-looking, also constrains the permit issuer's discretion by prohibiting BACT limits that would require pollution reductions greater than what can be achieved with available methods." *Newmont,* 12 E.A.D. at 441. In this regard, "[t]he BACT analysis * * * must be solidly grounded on what is presently known about the selected technology's effectiveness at controlling pollutant emissions." *Id.* For example, we have observed that "[i]n reaching [the] facility-specific result, the emission limitations achieved by other facilities and corresponding control technologies used at other facilities are an important source of information in determining what constitutes *best available*." *In re Knauf Fiber Glass, GmbH,* 8 E.A.D. 121, 128-29 (EAB 1999). The NSR Manual explains as follows:

> Manufacturer's data, engineering estimates and the experience of other sources provide the basis for determining achievable limits. Consequently, in assessing the capability of the control alternative, latitude exists to consider any special circumstances pertinent to the specific source under review, or regarding the prior application of the control alternative.

NSR Manual at B.24.[54]

Notably, the available data on the past performance of the selected technology may show that "the control efficiency achievable through the use of the technology may fluctuate, so that it would not always achieve its optimal control efficiency." *In re Masonite Corp.*, 5 E.A.D. 551, 560 (EAB 1994); *see also In re Pennsauken County, N.J., Res. Recovery Facility*, PSD Appeal No. 88-8, at 5 (Adm'r, Apr. 20, 1989) (Order Denying Review) (selected technology's control efficiency was known to fluctuate). For this reason, as we explain more fully in the following part of this decision, we have authorized the use of so-called "safety factors" that take into account test method variability, location specific technology variability, and other practical difficulties in operating a particular technology. *See, e.g., In re Knauf Fiber Glass, GmbH*, 9 E.A.D. 1, 15 (EAB 2000) ("There is nothing inherently wrong with setting an emissions limitation that takes into account a reasonable safety factor."). Thus, we have long recognized that permit writers must retain discretion to set BACT levels that "do not necessarily reflect the highest possible control efficiencies but, rather, will allow permittees to achieve compliance on a consistent basis." *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 188 (EAB 2000); *accord In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 53 (EAB 2001).

More generally, we have recognized a "distinction between, on the one hand, measured 'emissions rates,' which are necessarily data obtained from a particular facility at a specific time, and on the other hand, the 'emissions limitation' determined to be BACT and set forth in the permit, which the facility is required to continuously meet throughout the facility's life." *Newmont*, 12 E.A.D. at 442. As we held in *Newmont*, "because the 'emissions limitation' is applicable for the facility's life, it is wholly appropriate for the permit issuer to consider, as part of the BACT analysis, the extent to which the available data demonstrate whether the emissions rate at issue has been achieved by other facilities over a long term," and "the permit issuer may take into account the absence of long-term data, or the unproven long-term effectiveness of the technology, in setting the emissions limitation that is BACT for the facility." *Id.* For these reasons, we reject Petitioners' contention that IEPA's analysis in the present case constitutes an erroneous rewriting of the statutory language and we conclude that IEPA's consideration of the absence of data showing that more restrictive rates have been consistently achieved over a long term is not a per se violation of the BACT requirements.

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[54] Indeed, Petitioners' repeated citations to data regarding the emissions rates that other facilities have achieved in the past would appear to acknowledge that past performance of the selected technology informs the analysis of what the proposed facility can be expected to achieve in the future.

b. *IEPA's Use of Safety Factors*

Petitioners argue that IEPA improperly used "safety factors" in explaining why the selected emissions limits are less stringent than the most stringent emissions rates demonstrated at other facilities. Petition at 45-48. Petitioners present this issue as a general challenge affecting the Permit's BACT limits for SO_2, NO_X and PM. *Id.*

A challenge to a permitting authority's use of safety factors, however, is not easily entertained separate and apart from the permitting authority's analysis of the record evidence pertaining to achievable emissions limits. This is the case because the concept of a "safety factor" is intended to allow the permitting authority flexibility in setting the permit limits where there is some degree of uncertainty regarding the maximum degree of emissions reduction that is achievable. For example, we have approved the use of a safety factor to take into account variability and fluctuation in expected performance of the pollution control methods, or test method variability. *See, e.g., In re Knauf Fiber Glass, GmbH,* 9 E.A.D. 1, 15 (EAB 2000). As we noted in *Masonite,* where the technology's efficiency at controlling pollutant emissions is known to fluctuate, "setting the emissions limitation to reflect the highest control efficiency would make violations of the permit unavoidable." *Masonite,* 5 E.A.D. at 560. Further, "[d]ue to characteristics of individual plant processes, we recognize that application of identical technology may not yield identical emission limits." *In re Knauf Fiber Glass, GmbH,* 8 E.A.D. 121, 143 (EAB 1999); *see also* NSR Manual at B.23 ("Many control techniques, including both add-on controls and inherently lower polluting processes can perform at a wide range of levels.").

Thus, we have held that a permit writer is not required to set the emissions limit at the most stringent emissions rate that has been demonstrated by a facility using similar emissions control technology. *In re Kendall New Century Dev.*, 11 E.A.D. 40, 52 (EAB 2003). Instead, permit writers retain discretion to set BACT levels that "do not necessarily reflect the highest possible control efficiencies but, rather, will allow permittees to achieve compliance on a consistent basis." *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 188 (EAB 2000); *accord In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 53 (EAB 2001). We have also explained that "[t]he underlying principle of all of these 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 that those limits must also reflect consideration of any practical difficulties associated with using the control technology." *In re Cardinal FG Co.*, 12 E.A.D. at 170 (EAB 2005).

Because appropriate application of a safety factor in setting an emission limit is inherently fact-specific and unique to the particular circumstances of the selected technology, the context in which it will be applied, and available data regarding achievable emissions limits, we shall consider Petitioners' arguments

regarding IEPA's use of safety factors in the following discussion of the specific BACT limitations IEPA established for SO_2, NO_X and PM. In that way, we may evaluate whether Petitioners have shown that IEPA's application of safety factors is clearly erroneous in light of all of the record evidence bearing upon any uncertainty regarding the achievable control efficiency of the particular technology as applied to Prairie State's proposed Facility.

c. *Issues Specific to Calculation of the SO_2 Emissions Limits*

IEPA derived the SO_2 BACT limits for Prairie State's proposed Facility from IEPA's determination that wet flue gas desulfurization, or WFGD, is the appropriate technology for control of the SO_2 emissions from the coal-fired boilers. Permit at 7; Project Summary at 7-9. IEPA established a "heat input limit" for SO_2 emissions of 0.182 lb/MMBtu based on a 30-day rolling average and a "control efficiency" limit of 98% based on a 12-month rolling average. Permit at 16, ¶ 2.1.2.b.ii. Petitioners argue that these limits fail to comply with the PSD permitting requirements on four distinct grounds: First, Petitioners argue that IEPA failed to consider several technological WFGD variations that they allege would produce a SO_2 control efficiency rate higher than 98%, Petition at 56-63; second, Petitioners object that the SO_2 heat input emissions limit of 0.182 lb/MMBtu is based on an inappropriately long averaging time, *id.* at 63-66; third, Petitioners contend that the required 98% control efficiency is not practically enforceable, *id.* at 66-68; and fourth, Petitioners argue that IEPA was required to perform separate determinations for establishing the Permit's limits for sulfuric acid mist and SO_2, *id.* at 63. Each of these arguments, however, fails to establish clear error in IEPA's permitting decision.

i. *WFGD Variations with Allegedly Higher Control Efficiency*

Petitioners argue that IEPA failed to consider higher SO_2 control efficiency limits that Petitioners contend could be achieved through use of several specific variations or enhancements to WFGD technology. Petition at 56-63. Petitioners argue that IEPA failed to consider magnesium-enhanced lime scrubbers, the Chiyoda CT-121 bubbling jet reactor, or certain specified scrubber design enhancements. *Id.* at 57-58.[55] Specifically, Petitioners argue that "IEPA failed to evaluate or even consider these technologies." *Id.* at 57. Petitioners further contend that emissions reductions greater than 98% efficiency up to 99.76% efficiency have been demonstrated. *Id.* at 58-62. Petitioners extensively discuss a particular facility (Mitchell) employing the magnesium-enhanced lime variation of the WFGD technology, which they contend achieves a 99.76% control efficiency.

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[55] As discussed above in note 10, we have rejected Petitioners' contention that IEPA should have analyzed the WFGD variations as separate technologies in the BACT analysis.

Id. at 60-62. Finally, Petitioners argue that IEPA has not adequately explained or justified its use of "safety factors" in setting the 98% control efficiency limit. *Id.* at 47.

Petitioners' argument that IEPA "failed to evaluate or even consider" these WFGD variations, Petition at 57, however, must be rejected for the simple reason that IEPA did in fact consider WFGD technological variations and performance data when establishing the SO_2 control efficiency limit. Significantly, comments submitted during the public comment period persuaded IEPA to add the 98% control efficiency limit[56] to ensure that Prairie State consistently maintains and operates the WFGD system in order to achieve the control efficiency contemplated by IEPA's analysis of the available data. *See* Response to Comments at 51 (noting that 98% control efficiency limit requires consistent performance of the WFGD system without regard for variations in the sulfur content of the coal supply).

Moreover, in setting the control efficiency limit at 98%, IEPA specifically considered higher efficiency limits. For example, IEPA stated in its response to comments that "use of lime with a high magnesium content * * * can reasonably facilitate a higher level of SO_2 removal * * * However, there is not an adequate body of data for performance at 98.4% to set this level of performance as BACT." Response to Comments at 47. IEPA also explained that "[a] preliminary engineering evaluation from a vendor of control technology does not provide a reliable basis to set a BACT limit that goes beyond the demonstrated performance level of the control technology." *Id.* at 53. IEPA also specifically addressed the historical data regarding the Mitchell power plant and noted that more recent data suggest that the Mitchell plant is currently operating in the control efficiency range of 97% to 98%. *Id.* at 55. Finally, IEPA explained that where it is unclear that a control technology can consistently achieve the maximum reported reduction rates, it is appropriate for the permitting authority to set the emissions limit taking into account a "safety factor." *Id.* at 47.

Upon consideration, we conclude that these responses, including IEPA's decision to add a control efficiency limit, represent a careful analysis by IEPA of both the comments submitted during the public comment period and the variability of the actual performance data in the record. As we have frequently stated, "when the Board is presented with conflicting expert opinions or data, we look to see if the record demonstrates that the permitting agency duly considered the issues raised in the comments and if the approach ultimately selected is rational in light of all the information in the record, including the conflicting opinions and data." *In re Cardinal FG Co.*, 12 E.A.D. 153, 167 (EAB 2005); *see also In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 180 n.16 (EAB 2000); *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 568 (EAB 1998). Here, Petitioners have failed to

[56] The draft permit did not contain an SO_2 control efficiency limit.

demonstrate in their Petition why the selective information upon which they rely clearly outweighs IEPA's evaluation of all of the evidence in the record, which includes a range of performance levels that IEPA identified and discussed in setting the 98% control efficiency limit.

We also reject Petitioners' argument that IEPA misused the concept of a safety factor in setting the control efficiency limit at 98%. *See* Petition at 46. Variability in the observed performance of a control technology has long been recognized as an appropriate circumstance for the permitting authority to use a safety factor in setting the permit's BACT limit. *In re Masonite Corp.*, 5 E.A.D. 551, 560-61 (EAB 1994). Here, as noted above, IEPA specifically identified and discussed the variability in the data regarding achievable emissions rates. Further, IEPA specifically observed that the Mitchell facility that Petitioners identify as allegedly having achieved a higher efficiency level appears in more recent data to be operating at a lower efficiency of 97 to 98%. Response to Comments at 55.[57] To account for such variability, "a permitting authority must be allowed a certain degree of discretion" to set a consistently achievable emissions limitation. *Masonite*, 5 E.A.D. at 560-61. Accordingly, we conclude that Petitioners have not shown clear error in IEPA's use of a safety factor in setting the SO_2 control efficiency limit.

ii. *SO_2 30-day Averaging Time*

Petitioners argue that the SO_2 heat input emissions limit is based on an inappropriate averaging time. Petition at 63-66. Specifically, Petitioners argue that the Permit's SO_2 emissions limit of 0.182 lb/MMBtu based on a 30-day rolling average is not a sufficiently stringent averaging time to protect against exceedances of short-term NAAQS and the PSD increment, which are stated as 3-hour and 24-hour ambient standards. Petition at 63-64. Petitioners also argue that there is excessive variability"[58] between the allowable emissions rates under the Permit's 30-day SO_2 limit and the Permit's 24-hour SO_2 limit.[59] *Id.* at 64-65.

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[57] In reviewing another data set drawn from three units at the Harrison plant in West Virginia, IEPA noted that a 98% control efficiency requirement "only provides a safety margin of about 10 percent to accommodate variability of performance from year to year." Calculation Sheet at 10. We reject Petitioners' suggestion that IEPA's analysis reflects an inconsistent application of the margin of safety. Instead, we read IEPA's analysis to reflect consideration of whether the emission limit reflected an appropriate margin of safety given the variability observed in each of the different data sets presented in the public comments.

[58] By "excessive variability," Petitioners refer to the difference between the 30-day SO_2 limit of 0.182 lb/MMBtu and the 24-hour limit that takes effect within 24 months after initial startup and is equivalent to 0.329 lb/MMBtu at full operating capacity. Petition at 64.

[59] In addition to the BACT heat input limit based on the selected control technology, the Permit contains an SO_2 emissions limit of 2450 lb/hour, daily average. *See* Permit at 23, ¶ 2.1.7.a.i -.ii &
Continued

Review of these issues, however, must be denied on the grounds that Petitioners have failed to show that their objections to the 30-day averaging time were raised during the public comment period or, alternatively, were not reasonably ascertainable during the public comment period. In order to demonstrate that an issue has been preserved for appeal, a petitioner must show "that any issues being raised were raised during the public comment period." 40 C.F.R. § 124.19(a); *see also* 40 C.F.R. § 124.13; *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 249 (EAB 1999). Alternatively, a petitioner may demonstrate that an issue was not reasonably ascertainable during the public comment period. *See Encogen*, 8 E.A.D. at 250 n.8.

As we recently explained, this requirement "is not an arbitrary hurdle, placed in the path of potential petitioners simply to make the process of review more difficult; rather, it serves an important function related to the efficiency and integrity of the overall administrative scheme." *In re BP Cherry Point*, 12 E.A.D. 209, 219 (EAB 2005). "The intent of these rules is to ensure that the permitting authority * * * has the first opportunity to address any objections to the permit, and that the permit process will have some finality." *In re Sutter Power Plant*, 8 E.A.D. 680, 687 (EAB 1999). If we were to entertain issues raised for the first time on appeal, it would undermine the efficiency, predictability, and finality of the permitting process. *See In re Sumas Energy 2 Generation Facility*, PSD Appeal No. 02-10 & 02-11 at 10 (EAB March 25, 2003) (Order Remanding in Part and Denying Review in Part) ("[A]llowing a petitioner to raise for the first time on appeal concerns that could have been brought to the attention of the permitting authority, would leave the PSD permit system open-ended, frustrating the objective of repose and introducing intolerable delay.").

In the present case, the 30-day averaging time for the SO_2 heat input limit was stated in the draft permit, *see* Draft Permit at 14, ¶ 2.1.2.b.ii, and a less stringent 24-hour average limit was stated in the draft permit, Draft Permit at 20, ¶ 2.1.7.a.i & attach.1, tbl.I. Therefore, the Petitioners were required to identify all objections to that limit during the public comment period. Moreover, any public comments on this issue were required to have been raised with sufficient specificity to alert the permit issuer of the concern. "At a minimum, commenters must present issues with sufficient specificity to apprise the permit issuing authority of the issues being raised. Absent such specificity, the permit issuer cannot meaningfully respond to comments." *In re RockGen Energy Center*, 8 E.A.D. 536, 547-48 (EAB 1999).

(continued)
attach.1 tbl. I. This 24-hour SO_2 emissions limit was developed specifically to protect against exceedance of the NAAQS. Response to Comments at 120-21. The 24-hour SO_2 limit is subject to downward adjustment based on post-construction operating tests and may, under certain circumstances, be automatically reduced to 1350 lb/MMBtu, daily average. Permit at 23, ¶ 2.1.7.b.i; *id.* at 33-34, ¶ 2.1.16.

Here, although one commenter raised a concern regarding the averaging time of the SO_2 emissions limit as bearing upon the air quality modeling analysis conducted specifically to assess visibility impacts at the Class I area located in the Mingo National Wildlife Refuge,[60] we cannot conclude that this comment fairly apprised IEPA of the specific concerns Petitioners now argue in their Petition. The comment's focus was the commenters' concerns regarding differences between the short-term emissions rates used as inputs in the Class I area visibility air modeling analysis and the draft permit's 24-hour SO_2 and NO_X emissions limits. Letter from Paul Hoffman, Acting Assistant Secretary, Fish and Wildlife and Parks, U.S. Department of the Interior, to David J. Kolaz, IEPA, attach. at 7 (May 14, 2004). In this context, the comment stated that Prairie State should propose and use BACT emissions limits "with averaging times in accordance with the standards, increments, and appropriate visibility thresholds" and that the Permit's conditions should "ensure that emissions are limited to those used as model inputs." *Id.* at 7. Upon consideration, we read this comment as identifying concerns regarding the accuracy of the Class I area visibility air quality modeling, but not specifically challenging the Permit's BACT limit averaging times independent and apart from the Class I area modeling analysis. "While it is appropriate to hold permitting authorities accountable for a full and meaningful response to concerns fairly raised in public comments, such authorities are not expected to be prescient in their understanding of * * * imprecise comments * * * ." *In re Sutter Power Plant*, 8 E.A.D. 680, 694 (EAB 1999). We do not believe that the comment Petitioners have identified fairly apprised IEPA that Petitioners would argue on appeal that the Permit must contain multiple emissions limits with averaging times identical to the averaging times stated in the NAAQS, PSD increments, and emission test methods. Accordingly, we will consider the averaging times of the Permit's limits in our discussion of the sufficiency of IEPA's Class I area visibility air quality modeling analysis, but we reject Petitioners' contention that the Permit must contain multiple SO_2 BACT limits with averaging times corresponding exactly to the intervals stated in the NAAQS, PSD increments, and test methods.[61]

iii. *Whether the SO_2 Control Efficiency Limit is Practically Enforceable*

Petitioners contend that the 98% control efficiency limit for SO_2 removal added to the final permit in response to public comment does not accomplish IEPA's stated goal of making the heat input limit more stringent, and Petitioners argue that the control efficiency limit is not practically enforceable. Petition at 66-68. Petitioners contend that the control efficiency limit is not practically

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[60] The Mingo National Wildlife Refuge is located approximately 170 kilometers from the proposed Facility.

[61] Specifically, we deny review with respect to Petitioners' arguments at pages 63-66 of the Petition (sections X(D)-(H)).

enforceable on the grounds that the rolling annual averaging time is too long, that the Permit fails to specify a test method, and that the Permit fails to establish sampling and test frequency requirements. *Id.* at 66-67. The Petitioners also argue that the use of an annual average for the control efficiency limit and a 30-day average for the heat input limit "undercut the requirement that BACT limits be met continuously." *Id.* at 68.

Because the control efficiency limit was added to the permit after the close of the public comment period and in response to public comments, issues concerning this condition were not ascertainable during the public comment period and were not required to be raised at an earlier time. Thus, we reject IEPA's argument[62] that these issues were not properly preserved for appeal.

Petitioners correctly observe that the U.S. EPA has stated a preference for shorter term, rather than longer term, averaging periods for permit limits. *See, e.g.*, NSR Manual at C.4, C.56. However, this preference does not demonstrate that longer averaging times are clearly erroneous, especially with respect to a limit such as the control efficiency limit at issue here, which reinforces the heat input limit by providing further assurance that the SO_2 control equipment will be operated at its maximum achievable level of control.[63] More importantly, Petitioners have not demonstrated that their concerns are anything other than unsupported speculation. Specifically, Petitioners have identified no evidence that supports their concerns: (1) that an inspector may have difficulty determining compliance with the control efficiency limit because of its 12-month rolling average; (2) that the "mismatched" averaging times would allegedly undercut Prairie State's obligation to continuously meet the BACT limits; and (3) that a significantly shorter initial compliance commencement time for the control efficiency limit is necessary. Petition at 66-68. "The Board will not overturn a permit provision based on speculative arguments." *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 58 (EAB 2001). Petitioners thus have not demonstrated that IEPA clearly erred by imposing the control efficiency limit as an annual average.[64]

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[62] *See* IEPA's Response at 178.

[63] The heat input limit of 0.182 lb/MMBtu "reflects a nominal 98 percent reduction in SO_2 emissions based on the composition of the local coal supply." Project Summary at 9. IEPA recognized that a limit assuring the expected control efficiency was necessary given the high sulfur content of the coal supply that resulted in a higher heat input BACT limit than recently set at a number of other facilities. Response to Comments at 46 (response to comment 99); *Id.* at 51 (observing that the control efficiency limit assures that Prairie State cannot simply meet the heat input limit by burning lower sulfur content coal). Because the control efficiency limit was imposed to support the heat input limit, we find no clear error in IEPA's decision that this limit begin 18 months after initial startup, which as Prairie State notes effectively allows only a six-month optimization period before commencement of data collection for determining compliance. *See* Prairie State's Response at 121 & n.55.

[64] We also note that Petitioners specifically stated that "Petitioners support a control efficiency limit," which as noted was added by IEPA in response to comments. Petition at 66.

We also reject Petitioners' argument that the Permit "fails to establish any sampling and testing frequency to determine compliance with the 98 percent SO_2 control efficiency." Petition at 67. As IEPA notes in its Response, the Permit expressly states that compliance with the control efficiency limit shall be determined by test methods established in the NSPS and the Acid Rain Program. IEPA Response at 180, citing Permit at 24-28, ¶¶ 2.1.8, 2.1.9-1; *see also* Permit at 16, ¶ 2.1.2.b.ii.B ("This limit shall apply as a 12 month rolling average with compliance determined based on the actual SO_2 emissions of the boiler determined using the procedures set forth under the Acid Rain program and its theoretical emission of SO_2, that would result from combustion of coal without emissions control systems, calculated as the product of the average SO_2 input rate from 'as fired' fuel analysis, determined in accordance with 40 C.F.R. [pt.] 60, Appendix A, Method 19, and [§] 60.48a(b), and the heat input to the boilers, also determined using procedures under the Acid Rain program."). We conclude that IEPA's interpretation of these provisions, as set forth in its Response, adequately defines the method for determining compliance. If any ambiguity existed in these Permit provisions, it has now been resolved by IEPA's interpretation as articulated in its Response to Comments (to which it will be held) and, therefore, review of this issue need not be granted. *In re Puna Geothermal Venture*, 9 E.A.D. 243, 264 (EAB 2000).

iv. *SO_2 and Sulfuric Acid Mist*

Petitioners argue that the definition of "BACT requires a separate determination 'for each pollutant.'" Petition at 63, quoting 40 C.F.R. § 52.21(b)(12). Petitioners argue that IEPA clearly erred by failing to perform a separate BACT analysis for sulfuric acid mist distinct from the BACT analysis for SO_2 emissions. *Id.*

Upon consideration, we conclude that Petitioners have not demonstrated clear error in IEPA's permitting decision selecting the control limits for sulfuric acid mist and SO_2. Indeed, while Petitioners object that IEPA improperly did not conduct a separate analysis for sulfuric acid mist, a premise with which we do not agree, Petitioners have not identified any specific deficiency in the Permit's BACT limits governing sulfuric acid mist or SO_2 caused by any alleged omission in IEPA's analysis; nor do Petitioners argue that IEPA erred in selecting wet electrostatic precipitators as the technology for control of sulfuric acid mist. Absent proof of error in a permitting authority's decision to analyze two pollutants together, this is "the kind of technical determination that is best left to the State to decide." *In re Genesee Power Station L.P.*, 4 E.A.D. 832, 851 (EAB 1993); *accord In re Peabody W. Coal Co.*, 12 E.A.D. 22, 34 (EAB 2005) ("Where a permit decision pivots on the resolution of a genuine technical dispute or disagreement, the Board prefers not to substitute its judgment for the judgment of the decisionmaker specifically tasked with making such determinations in the first instance."), 12 E.A.D. at 34 . Accordingly, Petitioners have failed to demonstrate

any error, much less clear error, in the Permit's conditions governing sulfuric acid mist, and remand on this ground is not appropriate.

Moreover, we also conclude contrary to Petitioners' assertions that IEPA in fact separately reviewed the Permit requirements for sulfuric acid mist. IEPA's detailed discussion in its response to comments describing the relationship between sulfuric acid mist and SO_2 emissions, as well as IEPA's selection of wet electrostatic precipitators as a necessary additional control technology specific for the control of sulfuric acid mist, demonstrates that IEPA's analysis and permitting decision satisfy the BACT requirements for sulfuric acid mist separate from SO_2. *Compare* Permit at 16, ¶ 2.1.2.b.ii (SO_2 BACT limit) *with id.* at 17 ¶ 2.1.2.b.ii (sulfuric acid mist BACT limit); *see also* Response to Comments at 48. The record simply does not support Petitioners' contention that IEPA failed to perform a separate BACT determination for SO_2 and sulfuric acid mist. Accordingly, we deny review of the Permit's BACT limit for sulfuric acid mist.

d. *Issues Specific to NO_X Emissions*

Petitioners object to the Permit's BACT limit for NO_X emissions from the coal-fired boilers. IEPA derived the Permit's NO_X BACT limit from its determination that selective catalytic reduction ("SCR") in combination with low-NO_X burners are the technology that will provide the highest level of NO_X control for Prairie State's proposed Facility. IEPA noted in its BACT analysis that SCR and low NO_X burners "are the NO_X control measures used on new pulverized coal boilers." Project Summary at 5. IEPA stated that data show that SCR is the most effective available control technology. *Id.* Based on application of this technology, IEPA set the Permit's BACT limit for NO_X emissions at 0.07 lb/MMBtu based on a 30-day rolling average.[65]

Petitioners seek review of the NO_X BACT limit by arguing first that IEPA clearly erred when it did not perform an "updated" BACT analysis to take into account certain information that was not identified during the public comment period, but that was, according to Petitioners, "available" to IEPA before it issued its permitting decision in April 2005. Petition at 103. Petitioners identify this "available" information as (1) a statement published in the Federal Register in connection with a proposed rulemaking and (2) a selection of power plant test data. Petitioners also seek review of the Permit's BACT limit of 0.07 lb/MMBtu for NO_X emissions by arguing that IEPA improperly used safety factors in its analysis and clearly erred in rejecting a report prepared by a U.S. EPA employee, Matt Haber, titled "Best Available Control Technology for the Baldwin Generat-

[65] The Permit contains a limited exception to this calculation approach applicable when the 30-day period includes a startup or shutdown. Permit at 16.

ing Station, Baldwin, Illinois (Apr. 2002)[66] [hereinafter "Haber Report"].

As we explain below, Petitioners' arguments fail to show that IEPA clearly erred in setting the Permit's BACT limit for NO_X emissions at 0.07 lb/MMBtu.

i. *Whether an "Updated" BACT Analysis Is Required*

Petitioners contend that IEPA should have "updated" its NO_X BACT determination to take account of the following: (1) a statement in the Proposed NSPS Rule to the effect that "a NO_X limit of 0.04 lb/MMBtu was being achieved at a power plant in Texas," Petition at 102 (citing *Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978*, 70 Fed. Reg. 9706, 9710-11 (Feb. 28, 2005) (hereinafter the "Proposed NSPS Rule")), and (2) a selection of test data for a number of power plants during the period July to September, 2004, which Petitioners attached as Exhibit 49 to their Petition (hereinafter "Selected 2004 Data"), allegedly showing that multiple coal-fired power plants that have been retrofit with SCR are consistently achieving 30-day average NO_X emissions rates lower than the limit IEPA set in the Permit, *id.* at 102-03. At the outset, we note that the Petitioners do not argue that the terms of the proposed NSPS rule would require a more stringent limit than selected here, but rather they rely solely on a statement made in the preamble regarding operating results at the Texas facility. Petitioners argue that EPA policy requires the BACT determination to be made on the date the permit is issued – April 28, 2005, in this case – and that the permit issuer's decision must take into account any new information "available" before that date. Petition at 101-02. Petitioners argue that both the statement regarding the Texas facility in the Proposed NSPS Rule and the Selected 2004 Data were available to IEPA before it issued its permitting decision on April 28, 2005, and that therefore IEPA clearly erred by failing to perform an "updated" BACT analysis to include this information. *Id.* at 103.

Petitioners correctly observe that long-standing EPA policy states that the BACT determination is made on the date that the permit is issued.[67] Petitioners

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[66] The Haber Report was prepared for litigation in the case of *United States v. Ill. Power Co.*, Civ. Action No. 99-833-MJR (S.D. Ill.). As part of the litigation over the Baldwin facility, Mr. Haber prepared a Supplemental and Rebuttal Report (Oct. 2002), which refined and amended his original analysis in a number of respects.

[67] Indeed, this policy that the BACT determination is made on the date that the permitting decision is issued underlies our previous decision remanding IEPA's January 14, 2005 permitting decision when it became apparent that IEPA had issued the permit before issuing its responses to the public comments. *See In re Prairie State Generation Station*, 12 E.A.D. 176, 179 (EAB 2005). There, we observed that the applicable regulations defining the "administrative record" require that "the permit issuer must base the final permit decision on the administrative record, which must be 'complete' on the date he or she issues the final permit." *Id.*, 12 E.A.D. at 179 (citing 40 C.F.R. § 124.18).

identify two Agency policy memoranda from 1989 and 1990 as stating the proposition that the BACT determination is not set until the final permit is issued.[68] Petitioners also correctly note that, in 1990, the Administrator granted review in the case of *In re St. Lawrence County Solid Waste Disposal Auth.*, PSD Appeal No. 90-9 (Adm'r July 27, 1990) (Notice of Decision to Review Permit), on the grounds that the emissions limits for certain pollutants were less stringent than would be established by a proposed NSPS rule that had been published in the Federal Register after the close of the public comment period.

Petitioners, however, are mistaken in their contention that application of these policy memoranda and precedent from the Administrator required IEPA in the present case to perform an "updated" BACT determination. To the contrary, we conclude that IEPA's decisionmaking process in the present case fully complies with Agency policy and the applicable regulatory requirements. As we explain below, under these facts, IEPA did not commit clear error in failing to perform an "updated" analysis.

The regulation governing the administrative record for IEPA's decision states in relevant part as follows:

> (a) The Regional Administrator shall base final permit decisions under § 124.15 on the administrative record defined in this section.
>
> (b) The administrative record for any final permit shall consist of the administrative record for the draft permit and:
>
> > (1) All comments received during the public comment period provided under § 124.10 (including any extension or reopening under § 124.14);
> >
> > (2) The tape or transcript of any hearing(s) held under § 124.12;
> >
> > (3) Any written materials submitted at such hearing;

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[68] Memorandum from John S. Seitz, Director, Stationary Source Compliance Division, Office of Air Quality Planning and Standards, to Region 1 – 10, Re: BACT LAER Determination Cut-off Date (Jan. 11, 1990); Memorandum from John S. Seitz, Director, Stationary Source Compliance Division, to David Kee, Director, Office of Air and Radiation Division Region 5 (Feb. 24, 1989).

> (4) The response to comments required by § 124.17 and any new material placed in the record under that section;
>
> (5) For NPDES new source permits only * * *;
>
> (6) Other documents contained in the supporting file for the permit; and
>
> (7) The final permit.

40 C.F.R. § 124.18. Section 124.17, governing what new material may be added to the record in response to the public comments, provides in relevant part as follows:

> (b) For EPA-issued permits, any documents cited in the response to comments shall be included in the administrative record for the final permit decision as defined in § 124.18. If new points are raised or new material supplied during the public comment period, EPA may document its response to those matters by adding new materials to the administrative record.

40 C.F.R. § 124.17(b).[69]

These regulations governing the administrative record set forth a multi-staged process for the accumulation of evidence upon which the final permit decision is to be based. The process begins with the submission of information by the applicant and the accumulation of information by the permit issuer when processing the application and preparing the draft permitting decision. *See* 40 C.F.R. § 124.9 (administrative record for the draft permit). After the draft permit is issued, the public is afforded an opportunity to comment on the proposed decision and all documents and comments submitted by the public during that time must be included in the administrative record. 40 C.F.R. § 124.18(b)(1)-(3). After the close of the public comment period, the permit issuer prepares a response to the public comments and is afforded an opportunity to add new materials to the record to respond to public comments. 40 C.F.R. §§ 124.17(b), 124.18(b)(4). Notably, these regulations do not require the issuer of an EPA permit to supplement the record with information submitted by the public *after* the close of the public comment period, as is the case here.

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[69] As explained above in footnote 1, the Permit at issue in this case is an EPA-issued permit because IEPA is acting as EPA's delegate in issuing the Permit.

The Administrator's 1990 *St. Lawrence County* decision and the two memoranda Petitioners cite are fully consonant with these regulations and do not espouse a policy requiring the permit issuer to "update" the BACT analysis every time new information becomes available after the close of public comment up to the date on which the permit is issued. In the first memorandum Petitioners cite, which was issued in 1989 by John Seitz, Director of the Stationary Source Compliance Division, neither the question presented nor Director Seitz's answer suggested that the permitting authority must update the analysis with information submitted *after* the close of the public comment period. In that memorandum, Director Seitz answered in the affirmative the question whether LAER[70] determinations must take into account other permitting decisions issued "in the time period *up to and including the public comment period* on the permit currently under consideration?" Memorandum from John S. Seitz, Director, Stationary Source Compliance Division, to David Kee, Director, Office of Air and Radiation Division, Region 5 (Feb. 24, 1989) (emphasis added). Director Seitz simply did not discuss the period after the close of public comment.

The second memorandum Petitioners cite, which was issued in 1990 by Director Seitz, reaffirmed the cutoff date for consideration of public submissions stated in the 1989 memorandum and indicated that this policy applies to both LAER and BACT. Memorandum from John S. Seitz, Director, Stationary Source Compliance Division, Office of Air Quality Planning and Standards, to Regions 1-10 (Jan. 11, 1990). This memorandum, like the earlier one, does not discuss information submitted for the first time after the close of the public comment period. Director Seitz explained that "the Regions felt that establishing a cutoff date at any time *prior to the public comment period* would limit public participation and the ability of the public to affect changes in the proposed permit." *Id.* (emphasis added). In sum, it is apparent that the 1989 and 1990 memoranda Petitioners cite rejected a cutoff date prior to the close of the public comment period, but said nothing regarding information submitted for the first time after the close of the public comment. Thus, these memoranda cannot be looked to as stating a policy at variance with the scope of the record set forth in 40 C.F.R. § 124.18; nor do they require an "updated" BACT analysis incorporating information submitted by the public after the close of public comment.

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[70] LAER, which stands for "lowest achievable emission rate," is applicable in non-attainment areas and requires that all affected sources must comply with either the most stringent limit contained in a SIP or the most stringent emission limit achieved in practice, whichever is more stringent. 40 C.F.R. §§ 51.165(a)(1)(xiii), .166(b)(52). In contrast, under BACT, consideration of energy, environmental, or economic impacts may justify a lesser degree of control. Compare 40 C.F.R. § 52.21(b)(12). The NSR Manual suggests that LAER determinations "are available for BACT purposes and must also be included as control alternatives" during Step 1 of the BACT analysis and "usually represent the top alternative." NSR Manual at B.5.

Likewise, the Administrator's decision in *St. Lawrence County* is not at variance with the regulations governing the scope of the administrative record. In *St. Lawrence County*, the Administrator explained that, while BACT determinations should be made contemporaneous with the issuance of the final permit, "[t]he close of the public comment period is an appropriate benchmark for closing the administrative record to receipt of new information." *In re St. Lawrence County Solid Waste Disposal Auth.*, PSD Appeal No. 90-9, at 3 n.3 (Adm'r July 27, 1990).

In so holding, the Administrator cited the earlier decision in *In re Pennsauken County, N.J., Res. Recovery Facility*, 2 E.A.D. 667 (Adm'r 1988), where the Administrator noted that the U.S. Supreme Court has long recognized that the process of administrative decisionmaking necessarily includes a time-gap for evaluation of accumulated evidence, and that a decision is not to be reversed simply on the showing of new evidence. In *Pennsauken*, the Administrator quoted the Supreme Court's analysis as follows:

> Administrative consideration of evidence * * * always creates a gap between the time the record is closed and the time the administrative decision is promulgated * * *. If upon the coming down of the order litigants might demand rehearings as a matter of law because some new circumstance has arisen, some new trend has been observed, or some new fact discovered, there would be little hope that the administrative process could ever be consummated in an order that would not be subject to reopening.

Vt. Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 554-55 (1978), *quoted in Pennsauken*, 2 E.A.D. at 671 n.11.

The regulations governing the administrative record in Agency permitting proceedings – Sections 124.17(b) and 124.18 – provide a measure of formality to the "gap" during which the permit issuer evaluates the accumulated information. During this evaluation, as noted above, the permitting authority may supplement the record with information in response to public comments, but the regulations do not require the permitting authority to add new information to the administrative record. In applying these regulations, we have consistently held that "[p]ermitting authorities are under no obligation to consider comments received after the close of the public comment period." *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 194 n.32 (EAB 2000); *see also In re Carlota Copper Co.*, 11 E.A.D. 692, 728 (EAB 2004); *In re City of Phoenix*, 9 E.A.D. 515

(EAB 2000); *In re AES Puerto Rico, L.P.*, 8 E.A.D. 324, 342 n.20 (EAB 1999);[71] *accord In re BASF Corp. Chems. Div.*, 2 E.A.D. 925, (Adm'r 1989)(denying consideration of comments received three days after the close of the public comment period); *In re Am. Ref-Fuel Co.*, 2 E.A.D. 280, 281 n.3 (Adm'r 1986) (denying issue raised after public comment period closed).[72] In *Carlota*, we rejected the Petitioners' contention that it was sufficient for the petitioner to show "that, before the Region made the final permit decision, it was generally 'aware' of their argument." *Carlota*, 11 E.A.D. at 728. We explained that "the regulations dictate that Petitioners must demonstrate that someone prompted focused consideration of the issue by raising it *during* the public comment period; it is not sufficient for the issue to have been raised *before or after* the public comment period." *Id.*

We recognize that there are circumstances in which significant new information becomes available following the close of public comment that appropriately should be considered in finalizing a permit's terms. For example, the Administrator granted review in *St. Lawrence County* to determine whether the permit issuer should have considered an NSPS rule that had been proposed in the gap between the close of public comment and that the permit's issuance. Petition at 102 (citing *In re St. Lawrence County Solid Waste Disposal Auth.*, PSD Appeal No. 90-9, at 3 n.3 (Adm'r July 27, 1990). However, any similarities between *St. Lawrence County* and the present case with respect to the proposed rule change are at most superficial. In *St. Lawrence County*, the Administrator specifically noted that the proposed rule would apply retroactively[73] and the final permit "sets *less stringent* emission levels for NO_X, SO_2, and CO than the emission levels prescribed for these pollutants" in the proposed rulemaking. *St. Lawrence County*, at 1 (emphasis added). The Administrator found that the proposal of a rule that would establish a more stringent limit than the one in the permit under review was a preliminary determination by the Agency that more stringent limits "are currently achievable." *St. Lawrence County*, at 2.

In contrast, here, the BACT limit in Prairie State's Permit is *more stringent* than the proposed new NSPS limit. The Permit's BACT limit for NO_X of 0.07 lb/MMBtu is more conservative than the proposed new NSPS limit, which would be equivalent to 0.11 lb/MMBtu. Proposed NSPS Rule, 70 Fed. Reg. at 9716.

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[71] *See also In re Avon Custom Mixing Serv., Inc.*, 10 E.A.D. 700 (EAB 2002) (denying consideration of information submitted prior to the public comment period); *In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 119-20 (EAB 1997) (same).

[72] We have also noted that permit issuers have the discretion to consider comments submitted after the close of the public comment period. *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 194 n.32 (EAB 2000).

[73] The proposed NSPS rulemaking at issue in *St. Lawrence County* by its terms was retroactive in that it stated that the rule's provisions were to apply to all new construction commenced after the proposed rule was published in the Federal Register.

In short, the reference in the Proposed NSPS Rule's preamble regarding the Texas facility upon which the Petitioners rely, unlike the proposed rulemaking in *St. Lawrence County*, does not constitute a preliminary Agency determination that limits more stringent than set forth in the Permit "are currently achievable."[74] *St. Lawrence County*, at 2.

In *St. Lawrence County*, the Administrator concluded that under the circumstances of that case, the post-comment period information was significant enough to warrant further consideration by the permit issuer in finalizing the terms of that permit. Here, Petitioners have not demonstrated how the post-comment period information upon which they rely is sufficiently significant to call into question IEPA's permit limit. In fact, the record indicates that information from the referenced Texas facility and the cited 2004 data do not constitute significant new information warranting review of the permit limit.

IEPA did consider, prior to issuing its decision, the proposed and final NO_X limits from Texas facilities, including the facility referenced in the NSPS preamble. *See* Response to Comments at 61-62 (discussing recent decisions and experience in Texas). Petitioners do not explain how the information regarding the Texas facility included in the NSPS preamble differs in any material respect from the information that IEPA did previously consider prior to the Permit's issuance. Further, the Texas facility identified in the proposed NSPS rule's preamble is the W.A. Parish facility, which we discussed extensively in our recent decision in *In re Newmont Nevada Energy Investment, L.L.C.*, 12 E.A.D. 429, 450 (EAB 2005). In that decision, we noted that preliminary operational data indicated that the W.A. Parish facility had repeatedly failed to meet its 0.04 lb/MMBtu NO_X limit, that data showed 24-hour rolling average emissions as high as 0.18 lb/MMBtu, and that the W.A. Parish facility's design may have been modified to co-fire natural gas as well as coal. *Newmont*, 12 E.A.D. at 450. Similarly, Petitioners have not demonstrated that the information set forth in the Selected 2004 Data is materially different from the comprehensive data in the record that IEPA did consider in setting the NO_X BACT limit. Therefore, we conclude that IEPA did not commit clear error or abuse its discretion in failing to re-open or update its BACT analysis to include this information.

ii. *IEPA's Use of a Safety Factor and Its Rejection of the Haber Report*

Petitioners seek review of the Permit's NO_X limit on the grounds that IEPA improperly used safety factors in its analysis, Petition at 48, and that it erroneously dismissed consideration of the Haber Report, Petition at 103. Petitioners

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[74] Indeed, the fact that the Agency ultimately settled on a higher number in the proposed NSPS Rule suggests the contrary.

referred to the Haber Report in their comments submitted during the public comment period stating that the Haber Report supports their request for a more stringent NO_X BACT limit. Petitioners argue that IEPA "dismissed" the Haber Report with a "misleading" response to comments and that IEPA rejected the more stringent NO_X BACT limit suggested in the Haber Report "without a reasoned and accurate basis." Petition at 105. Upon consideration, however, we conclude that Petitioners' arguments regarding the Haber Report do not demonstrate clear error in IEPA's decision establishing the Permit's NO_X BACT limit. We also conclude that Petitioners have not demonstrated clear error in IEPA's use of a safety factor in its analysis.

In the Haber Report, Matt Haber, a CAA expert with EPA Region 9, gave his opinion in the context of litigation as to a range of NO_X emission limits that would be BACT for the coal-fired Baldwin Generating Station in Illinois. Mr. Haber opined that BACT for the Baldwin Generating Station for NO_X using SCR, low-NOx burners, and an optimization system would range as low as 0.015 to 0.020 lb/MMBtu and may be adjusted upward to 0.04 lb/MMBtu. Haber Report at 3, 50. IEPA, in its response to comments, stated its conclusion that Mr. Haber's recommended limit "is significantly below the limit for NO_X being required of other new boilers, to a degree that is unrealistic." Response to Comments at 61. IEPA stated further that, in its view, "a more telling piece of information" is that the settlement agreement worked out for the Baldwin power plant sets a NO_X limit of 0.10 lb/MMBtu on a 30-day rolling average. *Id.* For these reasons, IEPA concluded that the Haber Report cannot be relied upon to demonstrate that more stringent limits are achievable by Prairie State's proposed Facility. Petitioners have not identified grounds sufficient for us to reject these responses to comments as clearly erroneous.

We must initially note that we have recently found no clear error in another permitting authority's decision rejecting the Haber Report. *See In re Newmont Nevada Energy Investment, L.L.C.*, 12 E.A.D. at 447-48 (EAB 2005). In *Newmont,* we found it appropriate to defer to the permitting authority's expertise on the technical issue of the Haber Report's applicability, and we concluded that the petitioner in *Newmont* failed to perform a close "parsing" of the Haber Report's analysis to demonstrate the Report's relevance to the case and to demonstrate clear error. *Newmont*, 12 E.A.D. at 448. As explained below, in the present case, we conclude that Petitioners have failed to address the substantive reasons IEPA gave for its rejection of the Haber Report.

Petitioners' arguments on appeal fail to speak to what IEPA found to be a "more telling piece of information," namely that the emissions limit ultimately agreed upon for the Baldwin facility is 0.10 lb/MMBtu, which is higher than the 0.07 lb/MMBtu limit in the present case. Response to Comments at 61. Because Petitioners have failed to explain why it was clear error for IEPA to accord greater weight to the emissions rate established by the Baldwin settlement agreement than

IEPA accorded the opinion stated in the earlier Haber Report, Petitioners' appeal does not provide a sufficiently compelling rebuttal of IEPA's finding to overcome the deference we normally give the permitting authority on a technical matter such as this. *Newmont,* 12 E.A.D. at 447-48.[75] As a general matter, we accord broad deference to permitting authorities with respect to issues requiring the exercise of technical judgment and expertise. *E.g., In re BP Cherry Point,* 12 E.A.D. 209, 248 (EAB 2005); *In re Peabody W. Coal Co.,* 12 E.A.D. 22, 33 (EAB 2005); *In re Steel Dynamics, Inc.,* 9 E.A.D. 165, 201, 214-15 (EAB 2000); *In re Ash Grove Cement Co.,* 7 E.A.D. 387, 403 (EAB 1997) (A party wishing to obtain a grant of review of a technical issue must carry a heavy burden in convincing us that the permitting authority's technical analysis is erroneous).

We note, however, that Petitioners appear to have identified a few statements in IEPA's response to comments that may be erroneous. Specifically, Petitioners argue that IEPA's statements to the effect that Mr. Haber's opinion was based on "ideal performance" without "any initial safety factor" may be mistaken. Petition at 104-05. Petitioners note that Mr. Haber based his opinion on a control efficiency somewhat lower than he believed was the ideal control efficiency.[76] Petition at 104 n.56. While Petitioners' critique of IEPA's characterization of the Haber Report may have merit, it does not provide a substantive analysis of the technical distinctions between the scenario contemplated by Mr. Haber[77]and the present case. Moreover, as noted above, IEPA stated that it viewed the emissions

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[75] In *Newmont,* we rejected the Petitioners' argument that the Haber Report established grounds for granting review of a permit's NO_X BACT limit of 0.067 lb/MMBtu, which the permitting authority had established based on a record that included an expert's opinion to the effect that "NOx emission limits of 0.07 lb/MMBtu to 0.08 lb/MMBtu [are] 'state of the art' for SCR and low-NOx burner controls." *Newmont,* 12 E.A.D. at 447-48.

[76] Petitioners state that Mr. Haber calculated the limit using a control efficiency of 95%, rather than his assessment of an ideal control efficiency of 98%. Petition at 104 n.56. We do not find within the Haber Report a specific identification of control efficiency of either 95% or 98% supporting Mr. Haber's opinion regarding achievable limits in the range of 0.02 to 0.04 lb/MMBtu. Rather, we note that Mr. Haber identified a specific emissions rate achievable for Baldwin unit 3 using low-NO_X burners followed by 90% post-combustion control using SCR to arrive at the emissions rate of 0.02 to 0.04 lb/MMBtu. Haber Report at 49-50. Nevertheless, we note that Mr. Haber did express his view that the rates he identified included some adjustment to account for less than ideal control efficiency. *Id.*

[77] It is important to note that Mr. Haber provided two separate analyses for units at the Baldwin facility based on differing conditions at the units, and arrived at two different NO_X limits. For units 1 and 2, Mr. Haber opined that the BACT limit should be 0.14 lb/MMBtu, and for unit 3, he opined that the BACT limit should be 0.02 lb/MMBtu, with the possibility of adjustment to 0.04 lb/MMBtu. Haber Report at 44, 52. We also note that the Baldwin facility was burning Powder River Basin coal from Wyoming; it was not burning local Illinois coal similar to what Prairie State will be using. Haber Report at 46. Some experts have suggested that coal type may impact NO_X emissions. *Newmont,* 12 E.A.D. at 445. Here, IEPA specifically stated that coal quality has an effect on the design and operation of the SCR system resulting in variability of achievable control efficiency. Response to Comments at 65.

rate established by the Baldwin settlement agreement to be a "more telling piece of information" than the Haber Report, and Petitioners have failed to explain why this conclusion was clearly erroneous. For all of these reasons, Petitioners' arguments, although more detailed than those presented in *Newmont*, are insufficient to show clear error in IEPA's analysis rejecting the Haber Report.

Petitioners have also argued that we should remand the Permit's NO_X limits on the grounds that IEPA did not document its use of safety factors in developing the Permit's NO_X limits. Petition at 48. We find this argument unpersuasive and contrary to the record. IEPA specifically discussed the need for including some margin of safety in setting the Permit's NO_X limit due to variability in performance under a variety of circumstances. *See* Response to Comments at 60, 64-65. As we discussed above in Part II.B.5.c.i, variability in the observed performance of a control technology is an appropriate circumstance for the permitting authority to use a safety factor in setting the permit's BACT limit. *In re Masonite Corp.*, 5 E.A.D. 551, 560-61 (EAB 1994). Here, IEPA bases its use of a safety factor on a detailed summary of variability in emissions data collected from other facilities. IEPA specifically identified a range of emissions data from other facilities including emissions data that would have exceeded a limit set at 0.07 lb/MMBtu and emissions data close to this limit. Response to Comments at 64. It is also worth noting that IEPA made the NO_X BACT limit more stringent based on comments submitted during the public comment period. *See* Response to Comments at 58 (stating that the limit was lowered from 0.08 lb/MMBtu to 0.07 lb/MMBtu based on information submitted during the public comment period). This demonstrates that IEPA seriously considered the public comments and adjusted its decision based on new information received from public commenters. Petitioners have not provided a sufficiently compelling rebuttal of IEPA's analysis to overcome the deference we normally give the permitting authority on a technical matter. *Newmont*, 12 E.A.D. at 447-48; *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 403 (EAB 1997). "[W]here an alternative control option has been evaluated and rejected, those favoring the option must show that the evidence 'for' the control option clearly outweighs the evidence 'against' its application." *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 194 (EAB 2000) (quoting *In re Inter-Power of N.Y., Inc.*, 5 E.A.D. 130, 144 (EAB 1994)). We therefore deny review of the NO_X BACT limit.

e. *Issues Specific to PM Emissions*

Petitioners also object to the Permit limits for control of PM emissions, which IEPA derived from its determination that electrostatic precipitators and fabric filter baghouses are the top control technology for Prairie State's proposed Facility. The Permit sets two limits for particulate matter, one stated as filterable PM and the other stated as filterable and condensable PM_{10}. The terms "filterable" and "condensable" refer to different methods for measuring PM in its various

forms.[78] IEPA set a limit for filterable PM of 0.015 lb/MMBtu and a limit for filterable and condensable PM_{10} of 0.035 lb/MMBtu, with both limits applying as a three-hour block average. Permit at 15, ¶ 2.1.2.b.i.B. IEPA added the second of these limits in response to public comments. Response to Comments at 72-83. The Permit requires downward adjustment of the limit for total PM_{10} after stack tests are run over a three-year period.[79] Permit at 35-36, ¶ 2.1.17.

Petitioners seek review of both the limit for filterable PM and the limit for filterable and condensable PM_{10}. Petitioners argue that the record contains evidence that lower filterable PM limits are being achieved by coal-fired power plants, Petition at 82, and that the filterable and condensable PM_{10} limit is higher than limits set for allegedly similar coal-fired power plants. Petition at 77-79. In addition, Petitioners argue that IEPA inappropriately rejected lower PM_{10} limits based on application of an erroneous "safety factor." Petition at 82-85. Petitioners also object that the PM_{10} limit, which is subject to revision to a more stringent limit after stack tests, violates the requirement that permit limits be set before construction, Petition at 79-80, and that this limit was not established through an identifiable and sufficient BACT top-down analysis. Petition at 80-81. Finally, Petitioners argue that the PM emissions limits are not enforceable. Petition at 85-87.

For the following reasons, we reject these arguments and find that Petitioners have not demonstrated clear error in IEPA's determinations regarding the BACT limits for PM.

i. *PM and PM_{10} – Enforceability*

Petitioners argue that the PM emissions limits are not enforceable. Petition at 85-87. Petitioners argue that the limits are not enforceable because required testing is too infrequent, *id.* at 85, stack testing is the only method used to demonstrate compliance, *id.*, and PM CEMS is used only for compliance assurance, which Petitioners contend is not sufficiently defined. *id.* at 86.

These arguments, however, must fail as speculation unsupported by any citation or reference to record evidence or Agency guidance documents that would show clear error in IEPA's permitting decision. "The Board will not overturn a permit provision based on speculative arguments." *In re Three Mountain Power, LLC,* 10 E.A.D. 39, 58 (EAB 2001); *see also In re Cardinal FG Co.,* 12 E.A.D. 153, 167 (EAB 2005) ("when the Board is presented with conflicting expert opin-

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[78] *See In re Steel Dynamics,* 9 E.A.D. 165, 181 & n.20 (EAB 2000) (discussing methods for measuring filterable and condensable PM).

[79] The Permit specifically states that "[t]he emission limit for PM_{10} * * * shall be lowered based on the results of emissions testing * * * ." Permit at 35, ¶ 2.1.17.2.i.

ions or data, we look to see if the record demonstrates that the permitting agency duly considered the issues raised in the comments and if the approach ultimately selected is rational in light of all the information in the record, including the conflicting opinions and data"); *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 180 n.16 (EAB 2000); *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 568 (EAB 1998).

With respect to testing frequency, we note that IEPA responded to public comments by increasing the frequency of compliance testing. Response to Comments at 74. Petitioners have offered no evidence or reference to Agency guidance supporting their contention that the revised test frequency is not sufficient, particularly when combined with the Permit's requirements for compliance assurance monitoring. With respect to the use of stack testing and PM CEMS, Petitioners failed to identify any error in IEPA's response to public comments explaining why stack testing should not be the sole indicator of emission control technology performance. In particular, IEPA explained that stack tests "are conducted under operating conditions of emission units that place the greatest challenge on the control system" – they typically are operated at or near capacity, which results in the lowest efficiency (highest emissions) of the electrostatic precipitators "since the residence time of flue gas in the ESP is lowest and there is less time to extract particles from the gas stream." Response to Comments at 74-75. Presumably, if compliance can be demonstrated under these conditions, compliance can be maintained during operating conditions that are less challenging to the ESP. In addition, the Permit's requirement for compliance assurance PM CEMs monitoring will serve as a further indicator of compliance. Because Petitioners have not shown any error in this explanation, Petitioners have failed to establish grounds for us to grant review.

ii. *PM – Evidence of Achieved Lower Limits*

As noted above, Petitioners argue that both the filterable PM limit and the filterable and condensable PM_{10} limit are clearly erroneous. With respect to the 0.015 lb/MMBtu filterable PM limit, Petitioners argue that the record contains substantial evidence that lower filterable PM limits are being achieved by coal-fired power plants. Petition at 82. Petitioners allege that over 200 stack tests and the permit limits of several other facilities support their argument that IEPA clearly erred in setting the filterable PM limit. *Id.* at 82-85. Petitioners argue that IEPA inappropriately rejected lower limits based on application of an erroneous "safety factor." Petition at 82-85. Petitioners argue that "[t]he record contains no evidence that the IEPA addressed the four factors that *Masonite* requires to justify the use of a safety factor. Nor does IEPA justify the safety factor." *Id.* at 49 (citing *In re Masonite Corp.*, 5 E.A.D. 551, 560 (EAB 1994)). Petitioners' arguments, however, must fail.

First, we reject Petitioners' contention that IEPA provided no record justification for the use of a safety factor in setting the PM emissions limits. Variability

in the observed performance of a control technology is an appropriate circumstance for the permitting authority to use a safety factor in setting the permit's BACT limit. *In re Masonite Corp.*, 5 E.A.D. 551, 560-61 (EAB 1994). In the present case, IEPA specifically identified variability in the data regarding PM control efficiency as a reason for its use of a safety factor in setting the PM emissions limits. In responding to comments referring to stack test data, IEPA explained in its response to comments that "[t]he emission limit being set for filterable particulate matter for BACT for the coal-fired boilers represents the maximum degree of reduction, with an appropriate safety factor to accommodate normal *variation* in performance when the control system is properly operated and maintained." Response to Comments at 73 (emphasis added). IEPA stated that the public comment referencing stack tests below 0.015 lb/MMBtu "reflects a selective presentation of the available data" and "disregards test results that are higher than 0.015 lb/mmBtu." *Id.* at 75-76. IEPA explained further that "the extensive database of test results [referred to by the comment] confirms significant variability in the tested PM/PM_{10} emissions of power plants." *Id.* at 76. IEPA stated in its Response to Comments:

> For example, test data for the two units at St. Johns River Power Park, which are subject to a limit of 0.03 lb/mmBtu, consistently show test results less than 0.015 lb/mmBtu (11 tests for Unit 1 ranging from 0.0028 to 0.01 lb/mmBtu and 10 tests for Unit 2 ranging from 0.0004 to 0.0081 lb/mmBtu). However, both units have experienced test results greater than 0.015 lb/mmBtu (two tests at Unit 1 at 0.016 and one test at Unit 2 at 0.02110). Similar results are found for the Stanton Energy Center in Orlando.

Id. In the Calculation Sheet, IEPA also noted that the database referenced by the comments "confirms the wide range of measured PM/PM10 emissions from coal-fired boilers, varying from as low as 0.0004 to as high as 0.021 lb/million Btu, while the allowable emission rates ranged from 0.02 to 0.03 lb/million Btu." Calculation Sheet at 12. IEPA also explained that "individual tests do not provide an adequate basis to set BACT for filterable PM_{10} as they do not address normal variability in the performance of a boiler and its control system for particulate." Response to Comments at 76. Accordingly, IEPA's response to comments and other analysis in the record demonstrate the futility of Petitioners' argument that "the record contains no evidence" to support IEPA's conclusion that use of a safety factor is appropriate in this case.

Petitioners also challenge IEPA's response to comments arguing that the variability in the data is explained by variability in the ash content of the coal supply used by other facilities. Petitioners state that the facilities represented in the tests "do not have a dedicated coal supply and buy coal from a variety of sources with variable ash contents," and therefore "substantial variability would be expected,

based on variability in ash content of the coal." Petition at 84. Petitioners state that "[t]he Prairie State facility, on the other hand, is a mine mouth facility and will burn the same coal, day in and day out." *Id.*

Petitioners, however, have not provided any record evidence demonstrating that the ash content of the fuel used during the stack tests they cite explains the variability in the filterable PM data. Without such analysis demonstrating that the variability in the data is, in fact, explained by the ash content of the coal supply, Petitioners' ash-content theory is merely a speculative explanation for the observed data variability.[80] Such speculation does not show clear error in IEPA's permitting decision. *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 58 (EAB 2001) ("The Board will not overturn a permit provision based on speculative arguments.").

Moreover, because Petitioners have not provided an analysis of the range of variability in the stack test data, Petitioners have provided no basis for us to conclude that the "safety factor" applied by IEPA is excessive or would allow variability beyond what can reasonably be expected based on the data in the record. Accordingly, the stack test data on which Petitioner relies, standing alone, do not establish clear error in the Region's application of a safety factor for the filterable PM limit.

We also conclude that Petitioners have failed to carry their burden to demonstrate clear error in IEPA's response to comments that lower PM limits have been adopted at certain facilities.[81] IEPA observed that the facilities identified in the public comments employ different combustion technology, making comparison difficult. Response to Comments at 78 ("there may be circumstances present for these circulating fluidized bed boilers, which are equipped with baghouses and burn waste coal or coal and petroleum coke in the case of JEA, that have resulted in the establishment of these particular limits"). Petitioners have

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[80] IEPA disputes Petitioners' ash-content theory, stating instead that "[t]he degree of variability affecting PM/PM_{10} emissions stems from factors relating to the performance of controls and testing conditions, not from the ash content of a given coal supply." Response at 231.

[81] We, however, also reject Prairie State's argument that "there is no such thing as a presumptive BACT." Prairie State's Response at 144. As the NSR Manual states, "when reviewing a control technology with a wide range of emission performance levels, it is *presumed* that the source can achieve the same emission reduction level as another source unless the applicant demonstrates that there are source-specific factors or other relevant information that provide a technical, economic, energy or environmental justification to do otherwise." NSR Manual at B.24 (emphasis added). Further, while "latitude exists to consider any special circumstances pertinent to the specific source under review," nevertheless "the basis for choosing the alternate level (or range) of control in the BACT analysis must be documented in the application." *Id.* The applicant's burden to rebut the presumption in favor of applying the most stringent available control is longstanding. *See In re Pennsauken County, N.J., Res. Recovery Facility*, 2 E.A.D. 661, 669-71 (Adm'r 1988) (discussing earlier decisions and guidance).

not demonstrated in their Petition that IEPA's concerns regarding these distinguishing factors are misplaced.

IEPA also explained that "[t]he limits for these plants are not directly transferable to [Prairie State's] proposed coal-fired boilers because of the use of continuous particulate matter monitoring," which IEPA explains will provide an ongoing check that the emission limit is in fact met. Response to Comments at 78. Petitioners' only argument purporting to establish that this response to comments is clearly erroneous is that "the Prairie State permit does not require the use of 'continuous particulate matter monitoring' to determine compliance with the filterable PM limit. The PM CEMS is only used for 'compliance assurance monitoring.'" Petition at 84. Petitioners' argument, however, does not show clear error as it simply restates part of what IEPA explained in its response to comments, namely, that the continuous monitoring is for "compliance assurance." Response to Comments at 74. Petitioners omit IEPA's additional response that "[i]t is possible that this work will demonstrate that the required continuous monitoring provides data that [are] reliable and precise enough to be used to directly assess compliance with the established limit," *id.*,[82] and that "[e]ven if these systems [i.e., the continuous particulate matter monitoring] are only used for compliance assurance monitoring, they will potentially increase the rigor of the PM emission limit set for the boilers." Response to Comments at 75. Thus, IEPA explained that it expects the PM CEMs data will be used as an ongoing check on the Facility's compliance with its PM limit, making the 0.015 lb/MMBtu limit more rigorous than the PM limits at facilities cited by Petitioners. Petitioners' argument on appeal fails to address this central component of IEPA's response to comments explaining why the limits at the other facilities "are not directly transferable" to the present facility.

For all of these reasons, Petitioners have failed to show clear error in IEPA's basis for selecting 0.015 lb/MMBtu as the filterable PM limit.

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[82] IEPA more fully described the role of the continuous particulate matter monitoring as follows:

> As a general matter, the provisions of the permit for particulate matter are adequate. Periodic emissions testing is accompanied by compliance assurance monitoring for filterable particulate matter, which requires Prairie State to develop and maintain documents that formally define the relationship between monitored data and particulate matter emissions, as provided by 40 C.F.R. Part 64. It is possible that this work will demonstrate that the required continuous monitoring provides data that is reliable and precise enough to be used to directly assess compliance with the established limit given the specific circumstances presented by the proposed boilers, i.e., a high moisture exhaust following a scrubber and wet ESP and a limit set at 0.015 lb/million Btu heat input.

Response to Comments at 74.

iii. *Total PM_{10} Limit – Downward Adjustment Based on Post-Construction Performance Data*

The Permit limits total filterable and condensable PM_{10} to 0.035 lb/MMBtu and provides that this limit shall be lowered based on performance data to be obtained during the first years of operation. Permit at 15, ¶ 2.1.2.b.i.B; *id* at 35-36, ¶ 2.1.17. Petitioners request review of these conditions arguing that the 0.035 lb/MMBtu total PM_{10} limit was not established through an identifiable and sufficient top-down BACT analysis, Petition at 80-81, and is higher than limits set for three allegedly similar coal-fired power plants (identified as Thoroughbred Generating Station in Kentucky, Longview in West Virginia, and Elm Road in Wisconsin).[83] Petition at 77-79. Petitioners also object that the total PM_{10} limit, which is subject to revision to a more stringent limit after stack tests, violates the requirement that permit limits be set before construction. Petition at 79-80. In addition, they argue that the test plan and final report for adjustments to the PM_{10} limit must be made subject to PSD notice, review and appeal. Petition at 82.

Upon consideration, we conclude that Petitioners' arguments do not establish grounds for us to grant review of IEPA's permitting decision with respect to the total filterable and condensable PM_{10} limit. By way of background, we note that the 0.035 lb/MMBtu limit for total filterable and condensable PM_{10} was added to the Permit after the public comment period (and in response to public comments); however, IEPA's analysis of the total PM_{10} limit was initially set forth in the Project Summary that was available to the public prior to the public comment period. *See* Project Summary at 10-12. There, IEPA stated that sulfuric acid mist would serve as a surrogate for control of condensable particulate matter. *Id.* at 12. IEPA explained, "While sulfuric acid mist is recognized as a separate pollutant, it also constitutes a major component in the condensable particulate matter emissions from a coal-fired boiler." *Id.* at 11. IEPA also explained why it had initially decided to use sulfuric acid mist as a surrogate and not to establish a separate limit for filterable and condensable PM_{10}:

> This approach is proposed by the Illinois EPA because of the limited data that is available on the rates of condensable emissions from pulverized coal boilers, especially new boilers burning Illinois coal which are equipped with high-efficiency SCRs, rather than existing boilers to which an SCR has been retrofit. While some permitting authorities in other states have established BACT emission limits that address total particulate matter (filterable and condensable), the Illinois EPA does not be-

[83] On page 77 of the Petition, Petitioners refer to "four" other facilities; however, petitioners name only three other facilities in this part of their Petition. *See* Petition at 77-79.

> lieve that there is an adequate basis upon which to establish such a limit for the proposed boilers. The limits for combined particulate matter set or proposed in these other states, which range from 0.018 to 0.055 lb/million Btu, do not provide a reliable basis to set such a limit. In addition, the USEPA method for testing emissions of condensable particulate matter, Method 202, accommodates variations in the test procedures to reflect variations in state practices with respect to the scope of condensable particulate matter.

Id. at 12. In sum, IEPA stated its view that available information did not provide a reliable basis for setting a limit for total condensable and filterable PM_{10}.

IEPA also stated that the limit it selected for sulfuric acid mist – the proposed surrogate for the condensable form of particulate matter – of 0.005 lb/MMBtu "is below the emission limits set or proposed for sulfuric acid mist emissions for other recent coal-fired power plant projects" and that the control technology (WFGD with wet electrostatic precipitation (WESP)) is "also effective in reducing emissions of other fine particulate." *Id.* at 11. In response to public comments, IEPA explained that the Permit, as issued, still contains both the 0.015 lb/MMBtu filterable PM limit and the 0.005 lb/MMBtu sulfuric acid mist limit, but that "[i]t also contains a BACT limit for total PM, 0.035 lb/mmBtu, which is subject to further evaluation and lowering based on actual performance data." Response to Comments at 77. IEPA explained that this approach "is necessitated by the current state of scientific knowledge about condensable particulate emissions, total PM_{10} emissions, and their control." *Id*.

Turning to Petitioners' arguments on appeal, we first reject Petitioners's contention that the total PM_{10} limit was not established through an identifiable and sufficient BACT top-down analysis. Petition at 80-81. The pollutant at issue is particulate matter. PM_{10} is not a separate pollutant; instead, it is merely an indicator for PM and consists of two constituent parts: condensable and filterable PM_{10}. *See* National Ambient Air Quality Standards for Particulate Matter, 62 Fed. Reg. 38,652, 38,653-54 (July 18, 1997) (noting that "[p]articulate matter is the generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes" and noting that in the past "EPA changed the indicator for PM from total suspended particles (TSP) to PM_{10}.").

It is beyond dispute that IEPA performed a top-down BACT analysis for PM. *See* Project Summary at 10-12 (discussing BACT analysis of filterable particulate matter and discussing sulfuric acid mist as a surrogate for condensable particulate matter). Although IEPA did not initially set a separate BACT limit for total filterable and condensable PM_{10}, IEPA analyzed the available and applicable

control methods for the filterable and condensable components of PM_{10}. *Id.* Notably, Petitioners have not suggested that any available and applicable methods for controlling total PM_{10} were omitted from this analysis. Instead, Petitioners raise objections solely to the BACT limit IEPA derived from the selected control methods for total filterable and condensable PM_{10}. In other words, Petitioners' objections relate solely to IEPA's analysis performed at step 5 of the top-down method and thus do not demonstrate that IEPA wholly failed to perform a top-down BACT analysis.

Next, we turn to Petitioners' contention that review is warranted on the grounds that the Permit's total PM_{10} limit is less stringent than the total PM_{10} limits at the Thoroughbred, Longview, and Elm Road facilities. As we explain below, IEPA expressly discussed these facilities in its analysis, and Petitioners have not shown that IEPA's analysis, including its responses to comments, is clearly erroneous.

The record evidences IEPA's consideration of the then-recently issued and proposed total PM limits for Longview, Thoroughbred, and Elm Road, among other facilities, in setting a total PM limit for Prairie State. IEPA did not adopt the filterable and condensable PM_{10} limit of 0.018 lb/MMBtu from those three permits and explained that "the collection of information assembled in this comment does not demonstrate that a limit of 0.018 lb/mmBtu for total PM_{10} is achievable in the sense that the Illinois EPA believes is needed to set a BACT limit. It is not clear that this information is reliable." Response to Comments at 83.[84] In a related response to comments, IEPA also explained its view that "[t]he existence of limits in permits for proposed power plants does not demonstrate that such limits are achievable, much less that they can be consistently met by the required emission control technology, as is required for a BACT limit." *Id.* at 82. IEPA also explained that variations in the coal supply for other projects often requires different methods for controlling condensable PM_{10}. *Id.* at 72-73.

Upon consideration, we are not persuaded that Petitioners' reference in their Petition to the permits for the Longview, Thoroughbred and Elm Road facilities is sufficient to show clear error in IEPA's permitting decision. IEPA's response to comments demonstrates that it considered those particular facilities' limits, but was not confident that the limits are, in fact, achievable for Prairie State's Facility. *See* Response to Comments at 83 (responding to a public comment referencing Longview, Thoroughbred, and Elm Road). Where a permitting authority has responded to public comments demonstrating that it, in fact, considered technical issues raised in the public comments, we will normally not substitute our judg-

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[84] In particular, IEPA observed that one of the facilities mentioned in the public comment (which Petitioners have not referenced in their Petition) has a limit for total PM_{10} of 0.055 lb/MMBtu. *Id.*

ment for the technical expertise of the permitting authority, particularly where the petition demonstrates only disagreement among experts.[85] *In re Cardinal FG Co.*, 12 E.A.D. 153, 167 (EAB 2005) ("when the Board is presented with conflicting expert opinions or data, we look to see if the record demonstrates that the permitting agency duly considered the issues raised in the comments and if the approach ultimately selected is rational in light of all the information in the record, including the conflicting opinions and data"); *see also In re Peabody W. Coal Co.*, 12 E.A.D. 22, 34 (EAB 2005) ("Where a permit decision pivots on the resolution of a genuine technical dispute or disagreement, the Board prefers not to substitute its judgment for the judgment of the decisionmaker specifically tasked with making such determinations in the first instance."); *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 180 n.16 (EAB 2000); *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 568 (EAB 1998).

Moreover, contrary to Petitioners' contention, the Petition fails to demonstrate, through citations to the administrative record, that the Thoroughbred, Longview, or Elm Road facilities are comparable to Prairie State's with respect to the ash and sulfur content of the coal and with respect to boiler and emission

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[85] Petitioners are correct that the NSR Manual, in describing step 2 of the top-down method, states that "a permit requiring the application of a certain technology or emission limit to be achieved for such technology usually is sufficient justification to assume the technical feasibility of that technology or emission limit." NSR Manual at B.7; *see* Petition at 78 (citing NSR Manual at B.7); s*ee also* NSR Manual at B.24 ("when reviewing a control technology with a wide range of emission performance levels, it is presumed that the source can *achieve* the same emission reduction level as another source" (emphasis added)). In our view, the fact that other permitting authorities have concluded a particular limit is achievable should establish a presumption of feasibility at step 2 of the top-down BACT analysis as recommended in the NSR Manual. Nevertheless, where as here the cited permits from other states are only proposed or have only recently been issued and the record does not contain information showing that those limits in fact have been achieved, the permitting authority should also retain discretion to disagree with the technical judgments made by permitting authorities in other states and should have some latitude to structure alternative approaches when establishing the BACT limit at step 5 of the top-down method. In this regard, we note that the particular permits Petitioners reference in this case were not yet final or were only recently issued and the record available to IEPA at the time it issued the Permit did not include actual test data demonstrating that those facilities are in fact able to meet the referenced total PM_{10} limits. In addition, although IEPA has established an initially higher BACT limit than set in the cited permits, IEPA also included a requirement that the limit "shall be lowered based on the results of emissions testing" and established a lower default limit of 0.018 lb/MMBtu if Prairie State fails to perform the testing. Permit at 35, ¶ 2.1.17.a. This lower default limit would be consistent with the limits set in the permits Petitioners cite.

control design,[86] relevant emissions limits and averaging times,[87] and test methods. In particular, as part of IEPA's explanation in the Project Summary as to why the "limits for combined particulate matter set or proposed in these other states, which range from 0.018 to 0.055 lb/million Btu, do not provide a reliable basis to set such a limit," IEPA specifically noted that "the USEPA method for testing emissions of condensable particulate matter, Method 202, accommodates variations in the test procedures to reflect variations in state practices with respect to the scope of condensable particulate matter." Project Summary at 12. Thus, the record before us does not establish that an 0.018 lb/MMBtu limit achievable under the emissions testing variations employed at the Elm Road and Longview facilities would be achievable under the methods required by IEPA for condensable particulate matter. Under these circumstances, without evidence establishing that the Thoroughbred, Longview, and Elm Road facilities are comparable in these respects, we must hold that Petitioners have failed to carry their burden of demonstrating clear error in IEPA's permitting decision.

We also note that IEPA expressly stated that its determination is based, at least in part, on its conclusion that there is an uncertain current state of scientific knowledge about condensable particulate emissions, total PM_{10} emissions, and their control. Response to Comments at 77. To deal with its uncertainty regarding the appropriate achievable limit, IEPA established the initial limit of 0.035 lb/MMBtu but required this limit to be adjusted downward based on subsequent tests of Prairie State's actual performance. The provision for downward adjustment establishes a default limit of 0.018 lb/MMBtu if Prairie State fails to perform PM_{10} emission testing. Permit at 35, ¶ 2.1.17.a.ii.A. IEPA explained that the

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[86] The record contains information suggesting that the emissions control equipment selected as BACT for these facilities is not the same as that selected for Prairie State's proposed Facility. *See* Project Summary, attach. 2.1, column "Equipment". Without an explanation discussing equipment and design characteristics such as these, we are not persuaded that it was clear error for IEPA to question whether the emissions limits selected for these other facilities can be achieved at the present one. For example, we note that both the Elm Road and Longview plants are equipped with filters for control of the filterable component of particulate matter. *Id.* (identifying Elm Road as "FF" for fabric filter, and Longview as "BH" for baghouse). IEPA explained that the high sulfur content of the coal Prairie State will burn eliminates filters as an option for control of filterable PM and that an ESP was therefore selected as the BACT control technology. Project Summary at 10. While IEPA stated that the limitation for filterable PM selected in the present case is comparable to that selected for other recent facilities equipped with filters, the record does not include information from which we can determine whether the control efficiency for the filters or baghouses at Elm Road and Longview is no better than the ESP system Prairie State will use; or conversely, whether the filters or baghouses on those facilities may obtain some marginally greater removal efficiency, thereby making the more stringent total PM_{10} limit achievable.

[87] It appears, for example, that the averaging time for the Longview PM_{10} limit is six hours, rather than the three hours required for the present permit. Project Summary, attach. 2.1, notes for PC-22.

adjustment provision is an "essential component" of IEPA's BACT analysis. Response to Comments at 77.

Notably, the default 0.018 lb/MMBtu limit is precisely what Petitioners have asserted should have been set as BACT based on the limits in the permits for the Longview, Thoroughbred, and Elm Road facilities. Petition at 77-78. In our view, IEPA's approach effectively establishes the lower limit of 0.018 lb/MMBtu in the present Permit, unless Prairie State demonstrates through actual representative operating test data within the first three years of operation[88] that its Facility cannot reliably achieve that limit without "unacceptable" and "unreasonable" consequences.[89]

We reject Petitioners' objection that the adjustment to the total PM_{10} limit violates the pre-construction nature of the PSD permitting requirements, Petition at 79-80, and their argument that the test plan and final report for adjustments to the PM_{10} limit must be made subject to PSD notice, review and appeal. Petition at 82. On two prior occasions, we have sustained a permitting authority's decision to issue a permit containing BACT limits that were subject to adjustment based on post-construction performance data. *See In re AES Puerto Rico, L.P.*, 8 E.A.D. 324, 348-50 (EAB 1999); *In re Hadson Power 14*, 4 E.A.D. 258 (EAB 1992); *see also In re Pennsauken County, N.J., Res. Recovery Facility*, 2 E.A.D. 768, 771 (Adm'r 1989) (permit with an optimization clause requiring efforts to minimize emissions based on tests conducted after permit issuance).

The permit at issue in *AES Puerto Rico* set a low BACT limit for PM_{10}, but allowed upward adjustment after the facility obtained stack test data after construction.[90] *AES Puerto Rico*, 8 E.A.D. at 348-50. The permit at issue in *Hadson Power* set a high limit for NO_X subject to downward adjustment after obtaining

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[88] The Permit does allow the three-year test period to be extended to a fourth year under certain limited circumstances. Permit 36, ¶ 2.1.17.b.ii.B.

[89] The Permit states that a lower limit shall be established "unless the Permittee demonstrates and the Illinois EPA concurs * * * that a lower limit cannot be reliably met without unacceptable consequences, i.e., inability to comply with other emission limits or requirements or significant risk to equipment or personnel, and without unreasonable consequences, i.e., a significant increase in maintenance and repair needed for the boilers." Permit at 35, ¶ 2.1.17.a.i. The Permit provides further that "[t]his permit will be revised to set lower limit(s) for PM_{10} emissions (but no lower than the above default limits), if the Illinois EPA, after considering the result of any evaluation performed by the Permittee, finds that the boilers can and should be able to consistently comply with such limit(s) without unreasonable consequences." *Id.*, ¶ 2.1.17.a.iii. The Permit does provide for an automatic adjustment other than to 0.018 lb/MMBtu if Prairie State performs some testing but "fails to complete the evaluation in a timely manner," in which case the limit may be set at the sum of (a) the average of the test results and (b) the standard deviation of the results as set forth in Permit at 35, ¶ 2.1.17.a.ii.B.

[90] The permit, however, restricted the extent of an upward adjustment and the air quality modeling was based on this maximum upward adjustment. *AES Puerto Rico*, 8 E.A.D. at 348-50.

post-construction operating data. *Hadson Power*, 4 E.A.D. at 191. In both cases, the permitting authorities explained that the adjustable permit limits were used because of uncertainty as to what emission limit would be achievable. *Id.*; *AES Puerto Rico*, 8 E.A.D. at 348-50. In the present case, IEPA specifically concluded that there is scientific uncertainty regarding the achievable PM_{10} emission limit. Response to Comments at 12. Under these circumstances, just as we held in *AES Puerto Rico*, we conclude here that "the use of an adjustable limit, constrained by certain parameters, and backed by a worst case air quality analysis, is a reasonable approach." *AES Puerto Rico*, 8 E.A.D. at 349. Accordingly, we find no clear error in IEPA's permitting decision with respect to the Permit's BACT limit for total filterable and condensable PM_{10}.[91]

C. *BACT During Startup and Shutdown*

Petitioners raise three distinct sets of issues concerning the Permit's emissions limits applicable during periods of startup and shutdown. Petition at 105-11. First, Petitioners raise issues concerning the BACT limits applicable to PM, total PM_{10}, volatile organic matter, sulfuric acid mist, and fluorides. Petition at 106-09. Second, Petitioners object to the compliance procedures for SO_2 and NO_X during startup and shutdown. *Id.* at 109-10. Finally, Petitioners object to the startup and shutdown limit applicable to CO. *Id.* at 110-11. We reject each of these arguments for the reasons explained below.

1. *Startup and Shutdown: PM, Total PM_{10}, Volatile Organic Matter, Sulfuric Acid Mist, and Fluorides*

Petitioners contend that the Permit's "startup and shutdown provisions are clearly erroneous because they exempt [Prairie State] from BACT limits during

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[91] We also reject Petitioners' contention that the adjustable limit constitutes procedural error. IEPA states that adjustments to the PM_{10} limit involving discretionary judgments by IEPA require a permit revision. IEPA explains its interpretation of the Permit's Unit Specific Condition 2.1.17.a.iii: "implementation of the provision at issue, if it entails any judgment or discretion by the Illinois EPA, will have to be made in the context of a revision to the issued PSD permit." IEPA Response at 228. The Permit's Unit Specific Condition 2.1.17.a.iii identified by IEPA specifically states that "[t]his permit will be revised." IEPA is bound by this interpretation. *In re Puna Geothermal Venture*, 9 E.A.D. 243, 264 (EAB 2000). Moreover, to the extent that the Permit provides certain non-discretionary adjustments to the total PM_{10} limit including automatically lowering the limit to 0.018 lb/MMBtu if Prairie State fails to perform emission testing, the Permit's conditions are defined by the Permit and thus do not suffer from the defect we identified in *In re RockGen Energy Center*, 8 E.A.D. 536 (EAB 1999). In *RockGen*, we held that a permit exempting the facility from BACT limits during startup and shutdown and requiring the post-construction development of a plan for limiting emissions during startup and shutdown violated the requirement that BACT limits be established prior to construction. *Id.* at 553-55. Further, the optimization plan at issue in this case provides for an increase in the stringency of the BACT limits and in no way exempts Prairie State from the BACT limits initially set in the Permit. *See In re Indeck-Niles Energy Ctr.*, PSD Appeal No. 04-01, at 15-18 (EAB Sept. 30, 2004) (Order Denying Review).

periods of startup and shutdown and replace BACT limits with other non-BACT limits" for PM, total PM_{10}, volatile organic matter, sulfuric acid mist, and fluorides. Petition at 109. More specifically, Petitioners state that emissions can be higher during startups and shutdowns "because the pollution control equipment may not operate at peak efficiency." *Id.* at 105. For this reason, Petitioners explain that they urged IEPA to establish BACT limits applicable during startup and shutdown. *Id.* Petitioners contend on appeal that the changes IEPA made in response to their comments "made the problem worse, not better." *Id.* at 106. Petitioners object to IEPA's determination that the numeric "control technology" limits set forth in section 2.1.2.b of the Permit for filterable PM, total PM_{10}, volatile organic matter, sulfuric acid mist, and fluorides are not applicable during periods of startup, shutdown, and malfunction. *Id.*

Petitioners argue that other Permit limits applicable to these pollutants during periods of startup and shutdown are not BACT limits and therefore the Permit exempts these pollutants from BACT during startup and shutdown. Specifically, Petitioners note that the numeric "control technology" limits for these pollutants are replaced during startup and shutdown with "a general duty clause to follow good air pollution control practices," which Petitioners contend was not developed through a top-down BACT analysis and requires the subsequent development of a "startup, shutdown and malfunction plan" and "written maintenance procedures," both of which are not in the record and have not been approved through the Part 124 permitting procedures. *Id.* at 106-07. Petitioners also argue that certain other numeric limits set forth in Permit section 2.1.7 and identified as "secondary limits" are also not supported by a BACT analysis and are, according to Petitioners, subject to modification outside of a Part 124 process. *Id.* at 107-08. Petitioners argue that "these limits are not characterized by the permit or permitting file as BACT limits." *Id.* at 107.

Petitioners' arguments, however, must be rejected as inconsistent with the Permit's text. In particular, we note that Permit section 2.1.7(a) requires Prairie State to comply with the limits in Attachment 1, Table I, which sets forth numeric limits stated as pounds of the pollutant emitted each hour (i.e., lb/hour). These lb/hour limits in Attachment 1, Table I, correspond to the heat in-put BACT limits at the units' rated capacity. Permit section 2.1.2.e expressly states as follows:

> For PM, VOM, sulfuric acid mist and fluorides (for which the numerical limits in condition 2.1.2(b) and (c) do not apply during startup, shutdown and malfunction), the lb/hour limits, 3-hour average, in Condition 2.1.7(a) [Attachment 1: Table 1], which continue to apply during such periods, *shall serve as* "*secondary limits*" *for purposes of BACT,* with compliance determined based on engineering analysis and calculations.

Permit at 20, ¶ 2.1.2.e (emphasis added). The Permit's express terms clearly contradict Petitioners' contention that the Permit fails to identify the section 2.1.7(a) limits as BACT limits.[92] Thus, the Permit does not provide a blanket exemption from numeric emissions limits for emissions of filterable PM, total PM_{10}, volatile organic matter, sulfuric acid mist, and fluorides from all BACT limits during periods of startup, shutdown and malfunction.

We note further that Petitioners' argument appears to be premised on the misunderstanding that the permitting process may establish only one BACT limit for a pollutant and that this limit must be applicable at all times. This is plainly not the case. While we have held that "BACT requirements cannot be waived or otherwise ignored during periods of startup and shutdown," *In re Tallmadge Generating Station*, PSD Appeal No. 0-12, at 24 (EAB May 21, 2003) (Order Denying Review in Part and Remanding in Part),[93] this does not mean that all BACT limits must be applicable at all times. We stated in *Tallmadge* that, where the permitting authority has made "an on-the-record determination that such compliance [with otherwise applicable BACT limits] is infeasible during startup and shutdown," the permitting authority may "consider establishing secondary PSD limits that would apply to pollutants emitted during startup/shutdown periods" and "if it does so, such limits must be made part of the PSD permit and justified as BACT." *Id.* at 27, 28; *see also In re Indeck-Niles Energy Ctr.*, PSD Appeal No. 04-01, at 15-18 (EAB Sept. 30, 2004) (Order Denying Review) (denying review of a permit containing an exemption from some, but not all, of the permit's limits during periods of startup and shutdown).[94] This is consistent with the definition of BACT, which states that the BACT emissions limit is based on "the maximum degree of reduction for each pollutant" that the permit issuer determines "is

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[92] We also reject any suggestion that these secondary emissions limits were not derived through a BACT analysis. Although IEPA's analysis could have benefitted from greater detail, under the circumstances of this case we find that IEPA's decision to derive the secondary numeric emissions limits from the primary BACT limits coupled with IEPA's discussion in its response to comments is a sufficient BACT analysis to support IEPA's designation of the secondary numeric limits as BACT limits. *See* Response to Comments at 84-85.

[93] *See also In re RockGen Energy Center*, 8 E.A.D. 536, 553-55 (EAB 1999) (holding that PSD permits may not contain blanket exemptions from BACT limits during startup and shutdown). Applicable Agency policy guidance on emissions limitations applicable during startup, shutdown, and malfunction includes the following: Steven A. Herman, Assistant Administrator for Enforcement and Compliance Assurance, U.S. EPA, to Regional Administrators, Regions I-X (Sept. 20, 1999); John B. Rasnic, Director, Stationary Source Compliance Division, Office of Air Quality Planning and Standards, U.S. EPA to Linda M. Murphy, Director, Air, Pesticides and Toxics Management Division, U.S. EPA Region 1 (Jan. 28, 1993); Kathleen M. Bennett, Assistant Administrator for Air, Noise, and Radiation, U.S. EPA, to Regional Administrators, Regions 1-10 (Feb. 15, 1983) ("1983 Bennett Memo"); Kathleen M. Bennett, Assistant Administrator for Air, Noise, and Radiation, U.S. EPA, to Regional Administrators, Regions 1-10 (Sept. 28, 1982) .

[94] The Agency has recognized that there are circumstances in which the otherwise applicable BACT limits cannot be met during periods of startup or shutdown. 1983 Bennett Memo.

achievable." 40 C.F.R. § 52.21(b)(12) (2005). It follows that, where the permitting authority has determined that a particular emissions limit is not achievable during startup or shutdown, a different limit must be specified as BACT for those times.[95]

In the present case, IEPA determined that the primary BACT limits for filterable PM, total PM_{10} volatile organic matter, sulfuric acid mist, and fluorides, which are short-term limits applying on an hourly basis, "are not readily applied to periods of startup and shutdown." Calculation Sheet at 14. The Permit, accordingly, exempts emissions of filterable PM, total PM_{10}, volatile organic matter, sulfuric acid mist, and fluorides from the primary BACT limits set forth in section 2.1.2.b of the Permit. *See* Permit at 15-17. Each of the primary limits for these pollutants set forth in this part of the Permit are stated as a heat in-put limit (i.e., lb/MMBtu) based on an hourly averaging time. While the Permit exempts Prairie State from compliance with these heat in-put limits for certain pollutants during periods of startup, shutdown, and malfunction, the Permit, however, does not exempt filterable PM, total PM_{10}, volatile organic matter, sulfuric acid mist, and fluorides from all numeric BACT limits during startup, shutdown and malfunction. Instead, as noted above, the Permit specifically establishes "secondary limits," which are also numeric limits, for these pollutants "for purposes of BACT." Permit at 20, ¶ 2.1.2.e. These secondary numeric BACT limits are stated as pounds of the pollutant emitted each hour (i.e., lb/hour) based on a three-hour average and correspond to the heat in-put limit at the units' rated capacity. Permit at 23, ¶ 2.1.7.a.i & attach. 1, tbl. I; Response to Comments at 84. As such, the secondary BACT limits were derived directly from the primary heat in-put BACT limits and do not authorize emissions greater than the primary limits would allow at the units' rated heat in-put capacity. Notably, Petitioners, who bear the burden of proving that IEPA's decision was clear error, have not suggested any other appropriate method for calculating or establishing an emissions limit for these pollutants during periods of startup, shutdown, or malfunction.

Moreover, the secondary numeric BACT limits stated in lb/hour are further supported by a narrative requirement that "[t]he Permittee shall use good air pollution control practices to minimize emissions during startup, shutdown, and malfunction of the boiler," including use of natural gas during startup to heat the boiler and develop and follow written operating procedures and maintenance procedures. Permit at 20, ¶ 2.1.2.e. This narrative requirement is in addition to, and not in lieu of, the numeric "secondary" BACT limits discussed above. Thus, we reject Petitioners' implied contention that this narrative requirement is the only limit applicable during startup and shutdown. In addition, the narrative require-

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[95] We note that a policy of prohibiting adjustments to the BACT limit during periods where greater reductions cannot reliably be achieved could result in the undesirable selection of less stringent BACT limits applicable during all operating times.

ment to use good air pollution control practices and to develop operating and maintenance procedures is not unlike the optimization plans we have approved in other contexts where the permit contains a BACT limit that is to be made more stringent based on post-construction operating experience. *See, e.g., In re AES Puerto Rico, L.P.*, 8 E.A.D. 324, 348-50 (EAB 1999); *In re Hadson Power 14*, 4 E.A.D. 258 (EAB 1992) (requiring a downward adjustment of the permit's limits based on post-construction operating data); *see also In re Pennsauken County, N.J., Res. Recovery Facility*, 2 E.A.D. 768, 771 (Adm'r 1989) (permit with an optimization clause requiring efforts to minimize emissions based on tests conducted after permit issuance); *see also In re Indeck-Niles Energy Ctr.*, PSD Appeal No. 04-01, at 15-18 (EAB Sept. 30, 2004) (Order Denying Review) (permit required development of an optimization plan for periods of startup and shutdown).

Taking into account both the secondary numeric BACT limits and the Permit's requirement for development of an optimization plan, we must conclude that Petitioners have not sustained their burden of proving that IEPA's permitting decision was clearly erroneous or otherwise warrants review.[96]

2. *Startup and Shutdown: SO_2 and NO_X*

Petitioners object to IEPA's decision to include within the Permit an alternate method for determining compliance for SO_2 during periods that include startup and for determining compliance for NO_X during periods that include startup and shutdown. Petition at 109-10; *see also* Permit at 16, ¶¶ 2.1.2.b.ii.A & 2.1.2.b.iii. Petitioners argue that the alternate procedure "allows a less stringent compliance method to be used to determine compliance for an entire 30 days, rather than just the day or period when the startup occurred." Petition at 109. Petitioners contend that IEPA was required to perform a "new BACT analysis or explain the effect of the change on the BACT limit" before adopting this alternate method. *Id.* at 110.

Upon consideration, we find no clear error in IEPA's BACT analysis and decision to establish an alternate method for determining compliance during periods that include startup for SO_2 and startup and shutdown for NO_X. IEPA explained in its response to comments that the adoption of an alternate method during these periods "reflects Illinois EPA's experience with industrial boilers, which

[96] We also reject Petitioners unsupported argument objecting to the Permit's provision stating that compliance with the lb/hour secondary BACT limits will be demonstrated using engineering calculations. Petitioners have not identified any other method for determining compliance that could be effectively used for these pollutants during startup and shutdown. The Petitioners, thus, have failed to sustain their burden of proof that IEPA's permitting decision was clearly erroneous.

found that the rate-based compliance methodology of the NSPS[97] is problematic when applied to stringent BACT limits." Response to Comments at 84. IEPA stated further that "[w]ithout this provision for an alternative compliance methodology, the BACT limits for SO_2 and NO_X could not be extended with the necessary confidence that compliance is reasonably achievable with the BACT limits." *Id*. As we have frequently stated, we normally will not substitute our judgment for the technical expertise of the permitting authority where the permitting authority has responded to public comments demonstrating that it, in fact, considered technical issues raised. *In re Peabody W. Coal Co.*, 12 E.A.D. 22 (EAB 2005) ("Where a permit decision pivots on the resolution of a genuine technical dispute or disagreement, the Board prefers not to substitute its judgment for the judgment of the decisionmaker specifically tasked with making such determinations in the first instance."), 12 E.A.D. 22, 34 ; *see also In re Cardinal FG Co.*, 12 E.A.D. 153, 167 (EAB 2005) ("when the Board is presented with conflicting expert opinions or data, we look to see if the record demonstrates that the permitting agency duly considered the issues raised in the comments and if the approach ultimately selected is rational in light of all the information in the record, including the conflicting opinions and data"); *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 180 n.16 (EAB 2000); *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 568 (EAB 1998).

Here, Petitioners simply have not put forth the technical analysis that would be required to sustain their burden of proof that IEPA clearly erred in its reasons for providing an alternative method for determining compliance during startup and shutdown. We also note that IEPA made this determination as part of its BACT discussion and for reasons (i.e., consideration of achievability) that conform to the standards for determining BACT.

3. *Startup and Shutdown: CO*

Petitioners argue that the Permit's limit for CO during startup and shutdown[98] "is ambiguous and thus not practically enforceable." Petition at 110. Peti-

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[97] The Permit uses the NSPS's methodology as the primary method for determining compliance with the BACT limits at issue during periods that do not include startup or shutdown.

[98] The Permit specifies a CO limit during startup and shutdown of 893 lb/hr and states as follows:

> This limit shall apply as a 24-hour block average basis with continuous monitoring conducted in accordance with Condition 2.1.9. This limit shall apply during periods of startup and shutdown as also addressed by Condition 2.1.2(e). (For a startup event, the 24-hour period shall begin with the startup of the boiler, i.e., initial firing of fuel. For a shutdown event, the 24-hour period shall end with the shutdown of the boiler, i.e., cessation of fuel flow to the boiler.).

Permit at 17, ¶ 2.1.2.b.iv.B.

tioners argue that ambiguity arises from the Permit's failure to specify when "start-up ends or a shutdown begins." *Id.* Petitioners also argue that ambiguity arises because the Permit does not specify whether the compliance period must be a full 24 hours or some shorter period. *Id.* at 110-11. Petitioners' argument, however, must fail. IEPA explains in its response to the petition that the permit must be read as "giving '24-hours' its plain and ordinary meaning," and that therefore the permit's terms do not contain any ambiguity. IEPA Response at 329. Not only do we find this statement to be accurate, but also even if there were any ambiguity in the Permit's terms, IEPA would be bound by this interpretation, thereby resolving any such ambiguity. *In re Puna Geothermal Venture*, 9 E.A.D. 243, 264 (EAB 2000). Accordingly, we deny review of this issue.

D. *Modeling the Facility's Air Quality Impacts*

The PSD regulations require an analysis of the proposed Facility's impact on air quality. Specifically, the regulations require an analysis of the ambient air quality and source impacts pursuant to 40 C.F.R. § 52.21(k)-(m), an analysis of the proposed Facility's additional impacts pursuant to 40 C.F.R. § 52.21(o), and an analysis of visibility and other impacts to Class I areas pursuant to 40 C.F.R. § 52.21(p). In the present case, Petitioners allege errors in IEPA's analysis of each of these requirements.

1. *Ambient Air Quality and Source Impacts Analysis (40 C.F.R. § 52.21(k)-(m))*

The Clean Air Act and PSD regulations require that the permit issuer review new major stationary sources prior to construction to ensure that emissions from such facilities will not cause or contribute to an exceedance of either the NAAQS or the applicable PSD ambient air quality "increments."[99] CAA § 165(a)(3), 42 U.S.C. § 7475(a)(3); 40 C.F.R. § 52.21(k)-(m). Specifically, the statute prohibits the construction of a major emitting facility unless:

> the owner or operator of such facility demonstrates * * * that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant * * * more than one time per year, [or] (B) national ambient air quality standard in any air quality control region * * * .

[99] Air quality increments represent the maximum allowable increase in a particular pollutant's concentration that may occur above a baseline ambient air concentration for that pollutant. See 40 C.F.R. § 52.21(c) (increments for six regulated air pollutants).

CAA § 165(a)(3), 42 U.S.C. § 7475(a)(3). The performance of an ambient air quality and source impact analysis, pursuant to the regulatory requirements of 40 C.F.R. § 52.21(k), (l) and (m), as part of the PSD permit review process, is the central means for preconstruction determination of whether the source will cause or contribute to an exceedance of the NAAQS or PSD increments. *See In re Haw. Elec. Light Co.*, 8 E.A.D. 66, 73 (EAB 1998).

An air quality analysis generally proceeds in stages. It typically begins with a preliminary analysis that uses modeling to predict air quality impacts based solely on the proposed facility's emissions. NSR Manual at C.24. This preliminary analysis does not take into account existing ambient air quality or emissions from other sources. *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 149 (EAB 1999). The results are used to determine whether a full impact analysis is required.[100] The results of the preliminary analysis are compared to the "significant ambient impact levels" or "significant impact levels" ("SILs") set forth in the NSR Manual. NSR Manual at C.28. If the modeled impacts from the proposed facility are less than the SILs for all pollutants, the permit applicant generally is not required to conduct a full impact analysis. NSR Manual at C.24. However, if the modeled impacts from the facility are greater than the SIL for a pollutant, a full impact analysis is recommended for that pollutant. *Id.* at C.25.

In the present case, "[a]n ambient air quality analysis was conducted by a consulting firm, Kentuckiana Engineering, on behalf of Prairie State to assess the impacts of the proposed plant on ambient air quality." Project Summary at 17. Prairie State subsequently submitted a superseding modeling analysis dated July 12, 2004, that "included updated SO_2 culpability results, as a result of newly incorporated NAAQS inventory updates and a corrected anemometer height for the meteorological data sets." Response to Comments at 124; *see also* Prairie State Generating Station, Modeling Addendum #2 (July 12, 2004) [hereinafter "Modeling Addendum No. 2"]. "The Illinois EPA performed selected audit modeling runs to verify the applicant's results for the preliminary impact analysis, full impact analysis, and hazardous air pollutants (HAPs) modeling." Calculation Sheet at 15; *see also* Response to Comments at 124-26.

Petitioners argue that the air quality modeling and source impacts analysis used in the present case is clearly erroneous in three distinct ways. First, Petitioners contend that the analysis failed to consider whether Prairie State's proposed Facility would cause or contribute to violation of the new NAAQS for ozone stated as an 8-hour standard and to the new NAAQS for PM stated as standards

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[100] The results of the preliminary analysis are also used to determine whether the applicant may be exempt from preconstruction monitoring requirements, which may be allowed if the results of the preliminary analysis fall below "monitoring de minimis levels" set forth in the regulations. 40 C.F.R. § 52.21(i)(8)(I); *In re EcoEléctrica, L.P.*, 7 E.A.D. 56, 61-65 (EAB 1997).

for $PM_{2.5}$ (also referred to as fine particulate matter). Petition at 40-43; Petitioners' Reply at 10-14. Second, Petitioners argue that IEPA committed clear error in the modeling of Prairie State's proposed Facility's impact on the NAAQS ozone stated as a 1-hour standard. Petition at 98-100. Third, Petitioners argue that air quality modeling demonstrates that Prairie State's proposed Facility will violate the NAAQS for SO_2 and PM_{10} and that IEPA improperly disregarded these violations based on a "culpability" analysis that Petitioners allege is illegal. Petition at 89-98; Petitioners' Reply at 114-17. For the following reasons, we conclude that Petitioners' arguments have not shown clear error in IEPA's analysis and, accordingly, we deny review.

a. *Applicability of the New 8-hour NAAQS for Ozone and the New NAAQS for $PM_{2.5}$*

Petitioners contend that the ambient air quality analysis failed to consider whether Prairie State's proposed Facility will cause or contribute to a violation of the new NAAQS for ozone stated as an 8-hour standard and to a violation of the new NAAQS for PM stated as standards for $PM_{2.5}$. Petition at 40-43; Petitioners' Reply at 10-14.

Briefly, by way of background, on January 6, 2003, the U.S. EPA reaffirmed after a remand[101] its decision originally announced in 1997 establishing an 8-hour NAAQS for ozone. *National Ambient Air Quality Standards for Ozone: Final Response to Remand*, 68 Fed. Reg. 614 (Jan. 6, 2003); *see also National Ambient Air Quality Standards for Ozone*, 62 Fed. Reg. 38,856, 38,857 (July 18, 1997). In 1997, the U.S. EPA had also announced its decision revising the primary PM standards to add, among other things, two new $PM_{2.5}$ standards. *National Ambient Air Quality Standards for Particulate Matter*, 62 Fed. Reg. 38,652, 38,652 (July 18, 1997).[102] In April 2004, the Agency announced its classification of areas that are designated as either attainment or not in attainment of the 8-hour ozone NAAQS. *Air Quality Designations and Classifications for the 8-Hour Ozone National Ambient Air Quality Standards; Early Action Compact Areas With Deferred Effective Dates*, 69 Fed. Reg. 23,858 (Apr. 30, 2004). The Agency published the attainment and non-attainment designations for the $PM_{2.5}$

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[101] On May 14, 1999, the United States Court of Appeals for the District of Columbia Circuit remanded the 8-hour ozone NAAQS to EPA to consider, among other things, any potential beneficial health effects of ozone pollution in shielding the public from the "harmful effects of the sun's ultraviolet rays." *American Trucking Assoc., Inc., v. U.S. EPA*, 175 F.3d 1027 (D.C. Cir. 1999).

[102] The $PM_{2.5}$ NAAQS were challenged by numerous litigants and in May 1999, the U.S. Court of Appeals for the D.C. Circuit issued a decision remanding, but not vacating, the standards. *American Trucking Assoc. v. U.S. EPA*, 175 F.3d 1027, 1047-48, on rehearing 195 F.3d 4 (D.C. Cir. 1999). Subsequently, the Supreme Court upheld the $PM_{2.5}$ standards. *U.S. EPA v. American Trucking Assoc.*, 531 U.S. 457 (2001). In March 2002, the D.C. Circuit rejected all remaining challenges to the $PM_{2.5}$ standards. *American Trucking Assoc. v. U.S. EPA*, 283 F.3d 355 (D.C. Cir. 2002).

standards on January 5, 2005. *Air Quality Designations and Classifications for the Fine Particles ($PM_{2.5}$) National Ambient Air Quality Standards*, 70 Fed. Reg. 944 (Jan. 5, 2005).

Petitioners argue that these new NAAQS for ozone and $PM_{2.5}$ must be applied by permitting authorities when considering PSD permits and that "[t]his was not done" in the present case. Petition at 41, 43. Petitioners contend that IEPA did not require a demonstration that the proposed Facility will not cause or contribute to a violation of the $PM_{2.5}$ NAAQS and the 8-hour ozone NAAQs and that this failure constitutes clear error. *Id.*

Upon consideration, we conclude that Petitioners have not demonstrated clear error in IEPA's analysis regarding compliance with both the 8-hour ozone NAAQS and the $PM_{2.5}$ NAAQS. As we explain below, IEPA did, in fact, provide an analysis of whether the proposed Facility will cause or contribute to a violation of the 8-hour ozone NAAQS and the $PM_{2.5}$ NAAQS. IEPA's analysis, however, did not include modeling specifically directed at these new NAAQS, but instead used a so-called surrogate approach, supported by additional analysis directed at the new standards. As we explain below, Petitioners have not shown that IEPA's approach was inappropriate in the present circumstances.

IEPA discussed this issue initially in the Project Summary and, then, extensively in its responses to the public comments. IEPA explained in the Project Summary as follows:

> Modeling techniques are well developed for essentially stable pollutants like particulate matter, NO_X, and CO, and can readily address the impact of individual sources. Modeling techniques for reactive pollutants, e.g., ozone are more complex and have generally been developed for analysis of entire urban areas. They are not applicable to a single source with small amounts of emissions.

Project Summary at 17. IEPA explained in its response to comments that, because the U.S. EPA has not yet developed modeling techniques specific to the 8-hour ozone NAAQS, "USEPA Region V has indicated that a 1-hour ozone assessment should still be used as a surrogate for the 8-hour ozone standard for PSD air quality reviews." Response to Comments at 133. In response to public comments, IEPA also explained that $PM_{2.5}$ must be viewed as a reactive pollutant: "Fine particulate matter is both emitted directly and formed in the atmosphere through complex chemical reactions among precursor pollutants, primarily, NO, SO_2, ammonia and ozone." Response to Comments at 167-68. IEPA explained further that "USEPA has not issued guidance for implementation of the $PM_{2.5}$ standard, even

in draft form." Response to Comments at 155.[103] Similar to the approach Region 5 recommended for the 8-hour ozone NAAQS, the Agency has issued guidance stating that "[i]n view of the significant technical difficulties that now exist with respect to $PM_{2.5}$ monitoring, emissions estimation, and modeling [], EPA believes that PM_{10} may properly be used as a surrogate for $PM_{2.5}$ in meeting NSR requirements until these difficulties are resolved." Memorandum from John S. Seitz, Director, U.S. EPA Office of Air Quality Planning & Standards, (Oct. 27, 1997) (Interim Implementation of New Source Review Requirements for $PM_{2.5}$).

IEPA followed the surrogate approach recommended by Region 5 and the Agency, and concluded that the proposed Facility will not cause or contribute to a violation of either the 8-hour ozone or the $PM_{2.5}$ NAAQS. Response to Comments at 117, 120-22, 131-35, 155; Calculation Sheet at 15-19. In particular, IEPA's analysis specifically concluded that "this assessment shows that no exceedances of the NAAQS would occur as a result of the emissions of the proposed new power plants." IEPA, *Assessing the Impact on the St. Louis Ozone Attainment Demonstration From Proposed Electrical Generating Units in Illinois*, at 11 (Sept. 25. 2003) [hereinafter "2003 Ozone Analysis"]. IEPA relied on this analysis and, in its response to comments, stated that "[t]his modeling demonstrated that these power plant projects did not endanger attainment of the 1-hour ozone standard." Response to Comments at 134.[104] IEPA also explained that when used as a surrogate for the 8-hour standard, "this modeling is very conservative, overstating the identified changes in ozone levels, as they reflect 1-hour impacts, rather than

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[103] IEPA also stated that "[a]ppropriate methodology and procedures for performance of $PM_{2.5}$ air quality analysis have not yet been established by USEPA to support development of State Implementation Plans for $PM_{2.5}$. * * * USEPA is also under an obligation to develop the necessary procedures for performance of project-specific analysis for $PM_{2.5}$ * * * ." Response to Comments at 117.

[104] In Petitioners' Reply to IEPA's Response, Petitioners state as follows:

> IEPA, in its analysis of Prairie State's impact on ozone levels in nearby St. Louis, concluded that the facility would "cause small increases in ambient ozone concentrations in the St. Louis metropolitan area," Resp. Ex. 23 at 20, and that "the coal-fired electric generating units evaluated here" could "be shown to interfere with timely attainment of [the 8-hour] standard." *id.* at 3.

Petitioners' Reply at 10. The quoted language in this passage is not drawn from the cited IEPA's exhibit 23, but instead appears to be drawn from disparate parts of IEPA's 2003 Ozone Analysis. As such, Petitioners' selective quotations of partial sentences from the report incorrectly characterize IEPA's conclusions. In particular, IEPA did not state, nor imply, that the analyzed facilities "could 'be shown to interfere'" with 8-hour NAAQS attainment. Indeed, IEPA specifically stated that "this assessment shows that no exceedances of the [1-hour] NAAQS would occur as a result of the emissions of the proposed new power plants" and that the report did not address the 8-hour standard. 2003 Ozone Report at 11.

8-hour average impacts." *Id.*[105] IEPA concluded that "[t]his analysis shows that the proposed plant would not have a significant impact on ozone levels that were in excess of 80 ppb, one-hour average." *Id.*[106] IEPA also noted in the Response to Comments that the impacts identified in the 2003 Ozone Analysis that can be specifically attributed to Prairie State's proposed Facility are higher than the likely ozone impact under the Permit because the NO_X emissions limit for the Facility was lowered from 0.08 mm/Btu in the draft to 0.07 mm/Btu in the final Permit. *Id.*

With respect to $PM_{2.5}$, IEPA stated that "[m]odeling was conducted for the proposed plant for the various pollutants that play a role in air quality for $PM_{2.5}$, i.e., particulate matter (PM_{10}), SO_2 and NO_X." *Id.* at 117. IEPA observed that "[t]here were no time-receptor combinations for which Prairie State impacts exceeded the significant impact levels." *Id.* at 131. IEPA also went beyond reliance on this surrogate approach and stated that "the proposed plant is highly unlikely, by itself, to have a significant impact on $PM_{2.5}$ air quality." Response to Comments at 117. IEPA explained that "[b]ased on experience with $PM_{2.5}$ air quality elsewhere, air quality in the area near the plant will not be threatened by the plant." *Id.* at 166. IEPA supported this conclusion by both referencing the experience observed at the monitoring station near the Baldwin power plant and an analysis that "conservatively assum[ed] that all the particulate matter emitted from the boilers is $PM_{2.5}$." *Id.* The results of this analysis showed, according to IEPA, as follows:

> On a daily basis, the maximum concentration is 38.1 g/m^3 (1.75 + 36.3 = 38.1) compared to the standard of 65 g/m^3. On an annual basis, the maximum concentration is 13.5 (0.06 + 13.4 = 13.5), compared to the standard of 15 g/m^3.

Response to Comments at 166.[107]

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[105] Petitioners are correct in observing that the September 25, 2003 analysis specifically stated that it did not address the 8-hour ozone NAAQS. Petitioners' Reply at 11. However, Petitioners' argument misapprehends the import of IEPA's response to comments. IEPA did not assert that the September 25, 2003 analysis purported to make findings relative to the 8-hour standard. Instead, IEPA's response to comments set forth IEPA's analysis explaining why IEPA concluded that the 1-hour modeling would serve as a conservative analysis and *surrogate* for determining compliance with the 8-hour ozone NAAQS. Thus, in the body of this decision, we consider whether IEPA adequately explained its use of the 1-hour modeling as a surrogate.

[106] The new ozone NAAQS is 0.08 parts per million averaged over an 8-hour time frame. 40 C.F.R. § 50.10.

[107] The new $PM_{2.5}$ NAAQS is 15 micrograms per cubic meter (g/m^3) annual arithmetic mean concentraction and 64 ug/m3 average over a 24-hour time frame. 40 C.F.R. § 50.7.

Petitioners essentially dispute IEPA's surrogate analysis, arguing that IEPA's approach only analyzed the 1-hour ozone and PM_{10} NAAQS and did not determine whether the Facility will cause or contribute to an exceedance of the 8-hour ozone or $PM_{2.5}$ NAAQS.[108] Specifically, Petitioners' argue that the 1-hour ozone NAAQS is no longer applicable and that "[t]he permit should be remanded because the Act prohibits [Prairie State] from receiving a permit until it demonstrates that it can comply with the [8-hour ozone] NAAQS." Petition at 41-42. Petitioners' argument, however, must fail.

While both the statute and the implementing regulations prohibit the issuance of a PSD permit without a demonstration that the proposed source will not cause or contribute to an exceedance of the applicable NAAQS, 42 U.S.C. § 7475(a)(3); 40 C.F.R. § 52.21(k), neither the statute nor the regulations define with precision what the applicant must do to make the required demonstration, particularly with respect to the new 8-hour ozone and $PM_{2.5}$ NAAQS. Instead, the regulations provide in Appendix W to 40 C.F.R. part 51[109] guidelines regarding the air quality modeling techniques that should be applied to, among other things, new source review including PSD review. 40 C.F.R. pt. 51, App. W, § 1.a.

With respect to both the 8-hour ozone and $PM_{2.5}$ NAAQS for estimating the impact of individual sources, Appendix W simply states as follows:

> Choice of methods used to assess the impact of an individual source depends on the nature of the source and its emissions. Thus, model users should consult with the Regional Office to determine the most suitable approach on a case-by-case basis (subsection 3.2.2).

40 C.F.R. pt. 51, App. W §§ 6.2.1(c), 6.2.2.1(c). Subsection 3.2.2 states further that "[d]etermination of acceptability of a model is a Regional Office responsibility." 40 C.F.R. pt. 51, App. W § 3.2.2(a). Thus, at this time, there is little by way of formal regulatory requirement governing the analysis predicting whether either the 8-hour ozone or the $PM_{2.5}$ NAAQS will be exceeded, and there is much that is assigned to the permit issuer's technical judgment made in consultation with EPA's Regional Office. We generally accord broad deference to permitting authorities with respect to issues, such as this one, requiring the exercise of technical judgment and expertise. *E.g.*, *In re BP Cherry Point*, 12 E.A.D. 209, 228 (EAB 2005); *In re Peabody W. Coal Co.*, 12 E.A.D. 40, 41 (EAB 2005); *In re Steel*

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[108] Petitioners also contend at pages 89-101 of their Petition that IEPA erred in its determination that the proposed Facility will not cause or contribute to violations of the 1-hour ozone and the PM_{10} NAAQS. We will address these issues in the following subparts of this decision.

[109] The air quality and source impacts analysis must be conducted using the methods identified in Appendix W. 40 C.F.R. § 52.21(l).

Dynamics, Inc., 9 E.A.D. 165, 201, 214-15 (EAB 2000); *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 403 (EAB 1997) (A party wishing to obtain a grant of review of a technical issue must carry a heavy burden of convincing us that the permitting authority's technical analysis is erroneous); *In re EcoEléctrica, L.P.*, 7 E.A.D. 56, 66 (EAB 1997) (denying review and explaining that properly framed, "the question before the [permit issuer] was not whether to 'exempt' [the applicant] from an otherwise applicable regulatory requirement to perform multi-source modeling; the question, instead, was simply how much information to demand about existing sources of air pollution as part of [the applicant's] demonstration of PSD compliance").

Here, IEPA's response to comments and other analysis in the record demonstrates that IEPA did precisely what Appendix W recommends for determining compliance with the 8-hour ozone and $PM_{2.5}$ NAAQS – as explained above, IEPA followed Region 5's and EPA's guidance regarding the "most suitable approach" to be used on a case-by-case basis, which was to use the 1-hour ozone and PM_{10} modeling as a surrogate. *See* Response to Comments at 133, 155; Memorandum from John S. Seitz, Director, U.S. EPA Office of Air Quality Planning & Standards, (Oct. 27, 1997) (Interim Implementation of New Source Review Requirements for $PM_{2.5}$). Significantly, IEPA also went beyond the surrogate approach and provided additional reasons why it concluded that the Facility would not cause or contribute to a violation of either the 8-hour ozone or $PM_{2.5}$ NAAQS. Response to Comments at 117, 134, 166.

In at least one other case, we declined to review an air quality and source impacts analysis that used PM_{10} as a surrogate for $PM_{2.5}$. *In re BP Cherry Point*, 12 E.A.D. 209, 221-22 (EAB 2005). The Administrator has also denied review in a case where the alleged error was a failure to perform a modeling analysis for which there was no method approved by the Agency. *In re Old Dominion Elec. Coop.*, 3 E.A.D. 779, 792 (Adm'r 1992). Determinations such as, these regarding the adequacy of the permit issuer's analysis of a particular pollutant in the absence of an applicable pollutant-specific model approved by the Agency, must necessarily be solidly grounded on the record of the case and, consequently, may not be applicable in subsequent permit proceedings if the Agency has in the intervening time developed additional methods or techniques for analyzing the particular pollutant. Here, we are convinced that the record adequately supports IEPA's decision to use modeling of 1-hour ozone and PM_{10} impacts as the basis for IEPA's conclusion that the proposed Facility will not cause or contribute to violations of the 8-hour ozone and $PM_{2.5}$ NAAQS. Moreover, we note that Petitioners have not suggested that any other available method would more accurately predict whether the Facility will cause or contribute to a violation of the 8-hour ozone and $PM_{2.5}$ NAAQS. Because IEPA's approach appears to be in full accordance with the recommendation of Appendix W and guidance from EPA and Region 5 and because Petitioners have not suggested an alternative method that would be more accurate, we must conclude that Petitioners have failed to sustain their burden of demon-

strating clear error in IEPA's response to comments and analysis of this technical issue.

b. *Alleged Errors in the Analysis of Compliance with the 1-hour Ozone NAAQS*

Petitioners argue that IEPA committed clear error in the modeling of Prairie State's proposed Facility's compliance with the ozone NAAQS stated as a 1-hour standard. Petition at 100-01; Petitioners' Reply at 13-14. Petitioners state that IEPA's analysis used a daily average NO_X emissions rate derived from the draft permit's 30-day NO_X limit of 0.08 lb/MMBtu to produce the modeling input daily rate of 14.47 tons of NO_X emissions. Petition at 100-01. Petitioners argue that this is clear error on the grounds that they contend Appendix W – specifically, table 9-2 set forth in Appendix W to 40 C.F.R. part 51[110] – requires short-term limits to be used when modeling for short-term impacts. *Id.* at 101; Petitioners' Reply at 13. Petitioners thus argue that the Permit's 24-hour NO_X limit of 893 lbs/hour should have been used in the modeling for compliance with the 1-hour ozone NAAQS, rather than a rate derived from the 30-day limit. Petition at 101.

Petitioners' reference to table 9-2 in Appendix W, however, is not sufficient to show that IEPA's modeling of 1-hour ozone concentrations was clearly erroneous. Although Appendix W has been promulgated as codified regulatory text, *see, e.g., Requirements for Preparation, Adoption, and Submittal of Implementation Plans*, 58 Fed. Reg. 38,816 (July 20, 2003),[111] nevertheless, Appendix W provides permit issuers broad latitude and considerable flexibility in application of air quality modeling, *id.* at 38,820. Appendix W is replete with references to "recommendations," "guidelines," and reviewing authority discretion. Relevant to table 9-2 cited by Petitioners, we note that Appendix W section 9.1.2(a) merely states that "the following (b-h) [which includes table 9-2] is *typical of the kind of data* on source characteristics and operating conditions that *may be needed*." 40 C.F.R. pt. 51, App. W, § 9.1.2(a) (emphasis added). Section 9.0 provides further that "[m]ore specific data requirements and the format required for the individual models are described in detail in the users' guide for each model," and section 9.1.1(b) states that "[t]he appropriate reviewing authority [112] should be consulted

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[110] The Petition cites 40 C.F.R. part 52, Appendix W. However, since no such appendix exists and since 40 C.F.R. part 51, Appendix W contains a table 9-2, which summarizes data typically needed for the modeling analysis, we presume that this is the citation Petitioners intended.

[111] "[T]his action amends the CFR to incorporate supplement B as codified text, as well as giving regulatory status to long-standing EPA policy regarding the use of air quality models for other regulatory programs." 58 Fed. Reg. at 38,816.

[112] The "appropriate reviewing authority may be EPA's Regional Office, or delegated State and local agencies as "representatives" of the respective Regional Office. 40 C.F.R. pt. 51, App. W, § 3.0(b).

to determine appropriate source definitions and for guidance concerning the determination of emissions from and techniques for modeling the various source types." 40 C.F.R. pt. 51, App. W, §§ 9.0(a), 9.1.1(b). Here, Petitioners have not argued that the emission rate used by IEPA was contrary to the users' guide for the model IEPA used to analyze ozone concentrations. Moreover, the emissions rate IEPA used – the draft permit's proposed NO_X BACT limit of 0.08 lb/MMBtu, 30-day average – is not contrary to the plain language of table 9-2, which states that the emissions limit should be the "[m]aximum allowable emission limit or federally enforceable permit limit." 40 C.F.R. pt. 51, App. W, tbl. 9-2. Petitioners cannot argue that the Permit's NO_X BACT limit of 0.07 lb/MMBtu is not a federally enforceable limit. Thus, neither the cited table 9-2's text, nor the accompanying text of Appendix W section 9, which vest discretion in the permitting authority, provide a firm foundation for Petitioners' contention that IEPA clearly erred in the emissions rate used in the modeling for compliance with the ozone NAAQS.

We also note that Appendix W specifically states that "[s]imulation of ozone formation and transport is a highly complex and resource intensive exercise." 40 C.F.R. pt. 51, App. W, § 6.2.1(a). We generally accord broad deference to permitting authorities with respect to issues, such as this one, requiring the exercise of technical judgment and expertise. *E.g.*, *In re BP Cherry Point*, 12 E.A.D. 209, 228 (EAB 2005); *In re Peabody W. Coal Co.*, 12 E.A.D. 22, 40-41 (EAB 2005); *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 201, 214-15 (EAB 2000); *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 403 (EAB 1997) (A party wishing to obtain a grant of review of a technical issue must carry a heavy burden of convincing us that the permitting authority's technical analysis is erroneous). Here, we conclude that Petitioners have not sustained their burden of proving, on the record of this case, that IEPA committed clear error in determining that the air quality modeling and source impacts analysis was sufficient to show that Prairie State's proposed Facility will not cause or contribute to a violation of the 1-hour ozone NAAQS. Accordingly, we deny review of this issue.

c. *Alleged Violations of the NAAQS for SO_2 and PM_{10}*

Petitioners argue that air quality modeling in the present case demonstrates that Prairie State's proposed Facility will violate the SO_2 and PM_{10} NAAQS. Petition at 89-98; Petitioners' Reply at 14-17. More specifically, Petitioners seek review of IEPA's decision to use the significant impact levels, or SILs, in a "culpability analysis" to conclude that Prairie State's proposed Facility is not predicted to violate certain NAAQS identified in the air quality and source impacts modeling. Petition at 89. Petitioners assert that IEPA's use of the SILs as a threshold for determining whether the Facility contributes to a predicted NAAQS exceedance is "clearly legally erroneous." Petition at 89. Petitioners argue that use of the SILs as a threshold for determining whether a facility will cause or contribute to a NAAQS exceedance violates Clean Air Act section 165(a)(3), which Petitioners

observe "does not use the term 'significant.'" *Id.* at 92. For the reasons stated below, we disagree.

Prairie State's air quality and source impacts analysis, which was reviewed and approved by IEPA, followed the NSR Manual's guidance by setting forth a preliminary analysis of air quality impacts based solely on the proposed Facility's emissions. That preliminary analysis indicated that SO_2 and PM at certain locations and times are likely to exceed the applicable SILs, thereby triggering a full impacts analysis for these pollutants. *See* Modeling Addendum No. 2[113] at 1 (stating that SO_2 and PM emissions resulted in predicted concentrations in excess of the SILs triggering further modeling). The full impacts analysis, which included the proposed Facility's emissions, so-called "background" emissions, and emissions from other sources, predicted violations of the 3-hour and 24-hour SO_2 NAAQS at certain receptors at certain times. *Id.* at 7. However, as to PM, the full impacts analysis set forth in Modeling Addendum No. 2 predicted that there would not be violations of the PM_{10} NAAQS. *Id.* at 10.

At this juncture before addressing Petitioners' principal argument regarding the culpability analysis and SILs, we must address a number of background matters including factual disputes concerning the air quality and source impacts analyses. We note first that, during the public comment period and in response to comments submitted, Prairie State updated and corrected its air quality and source impact analysis and set forth the updated analysis in Modeling Addendum No. 2, which consequently is different in a number of respects from the analysis discussed in the Project Summary. *See, e.g.,* Response to Comments at 123-24. Notably, the analysis in Modeling Addendum No. 2, unlike the earlier analysis summarized in the Project Summary, did not predict violations of the PM_{10} NAAQS. Modeling Addendum No. 2 at 10. Consequently, a culpability analysis of PM_{10} was unnecessary. *Id.* On the basis of this subsequent modeling, IEPA concluded that Prairie State's proposed Facility will not cause or contribute to a violation of the PM_{10} NAAQS (because no violations were predicted). *Id*. Because Petitioners have not alleged, much less shown, any error in IEPA's review of Modeling Addendum No. 2 on this point, we must reject Petitioners' contention that the relevant air quality modeling predicted violation of the PM_{10} NAAQS.[114] Accordingly, we deny review of IEPA's conclusion that the Facility will not cause or contribute to a violation of the PM_{10} NAAQS.

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[113] The IEPA based its determination on its review of the analysis in Modeling Addendum No. 2. Response to Comments at 124 – 26.

[114] Petitioners' argument appears to be based solely on the analysis Prairie State presented to IEPA in December, 2003, or earlier. *See* Petition at 91. To the extent that the Calculation Sheet appears to discuss the earlier air quality and source impacts analysis without an update reflecting Modeling Addendum No. 2 (*see, e.g.,* Calculation Sheet at 17-18), it appears that the Calculation Sheet does not reflect IEPA's final analysis as set forth in the Response to Comments.

In addition, as a preliminary matter, we reject Petitioners' claim that the SO_2 NAAQS analysis must be remanded due to violations allegedly identified based on the December 2003 modeling in the vicinity of the Warren G. Murray Development Center ("Murray"). We also reject Petitioners' related claim that IEPA allegedly used an incorrect emission rate for Murray in the 2003 modeling. Petitioners claim that the emissions rate used for Murray in turn resulted in inaccurate results from the SO_2 modeling, and that IEPA thus committed clear error in not re-running the air quality monitoring to take into account a lower short-term SO_2 emissions rate for Murray. Petitioners' arguments are mistaken.

As noted above, the 2003 modeling was superseded by Modeling Addendum No. 2. Following the December 2003 modeling, IEPA reviewed both the data and the sources used in the 2003 modeling. IEPA stated that the 2003 modeling submittal "was later superseded by a modeling analysis dated July 12, 2004 (Prairie State Generating Station Modeling Addendum No. 2), that included updated SO_2 culpability results, as a result of newly incorporated NAAQS inventory updates and a corrected anemometer height for the meteorological data sets." Response to Comments No. 271 at 123-24. For purposes of this challenge, the operative change in the inventory and data sets referred to in the Response to Comments was a change in the categorization of the Murray facility. The Murray facility was included in the source data base for purposes of cumulative SO_2 NAAQS modeling,[115] but was not included in modeling the short-term SO_2 emission rates from sources within a close proximity to the Facility. It is this change in the categorization of the Murray facility, from a "nearby"[116] source to a source accounted for as a background source in the cumulative SO_2 analysis, that drives the omission of the short-term Murray SO_2 emission rates from Model Addendum No. 2. Petitioners, however, have never challenged this technical determination by IEPA.

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[115] Cumulative modeling, or modeling of background sources of SO_2, was required here because preliminary modeling of SO_2 emissions from the Prairie State facility indicated SO_2 emissions in concentrations exceeding the applicable SILs.

[116] IEPA's analysis is consistent with 40 C.F.R. part 51, Appendix W. Section 9.2.3 of Appendix W categorizes sources as "nearby" and "other." Nearby sources are individually analyzed through modeling, while sources categorized as other are assumed to be accounted for by the background concentration and are not individually modeled. To determine whether a source should be considered a nearby source, regulators look to that source's allowed emission rate and the distance of that source from the proposed facility. Here, IEPA calculated the distance between the Prairie State facility and the Murray facility and multiplied that distance by 10, the so-called 10D factor. The resulting product was then compared to the SO_2 emission rate for the Murray facility. If the Murray emission rate had been greater than the 10D factor, the Murray facility would have been considered a "nearby" source; whereas, here, the Murray facility's short-term SO_2 rates were "screened out" as adequately taken into account in the background data based on this so-called 10D analysis and therefore not included in Modeling Addendum No. 2. Prairie State's Brief at 183-84; IEPA's Brief at 271-72.

Petitioners merely object to the failure to re-run the SO_2 emissions modeling based upon Petitioners' comment that the short-term SO_2 rate for the Murray facility was erroneous. Petitioners' argument apparently is based solely on the December 2003 SO_2 modeling.[117] Petitioners completely ignore the subsequent July 2004 modeling, Modeling Addendum No. 2, upon which IEPA based its determination. Having failed to address the central technical determination from which the SO_2 modeling was derived, Petitioners' claim that the SO_2 NAAQS analysis must be remanded for further SO_2 modeling is not properly before this Board. Failure to raise an issue in the Petition precludes consideration of the issue on appeal. *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 126 n.9 (EAB 1999). Likewise, Petitioners' reference to a list of alleged violations identified based on the December 2003 modeling, *see* Petition at 96-97, cannot show error in IEPA's conclusions that were based on the subsequent Modeling Addendum No. 2.[118]

With these preliminary disputes regarding differences between Modeling Addendum No. 2 and the earlier modeling runs resolved, we now turn to Petitioners' principal contention regarding the legality of the so-called culpability analysis.

For the predicted exceedances of the 3-hour and 24-hour SO_2 NAAQS identified in Modeling Addendum No. 2, a further analysis was conducted to determine the extent, if any, to which Prairie State's proposed Facility is predicted to contribute to the identified exceedances. This analysis is referred to as the "culpability" analysis. Project Summary at 20; Modeling Addendum No. 2 at 8-9. Where the culpability analysis of a modeled NAAQS exceedance indicated that the proposed Facility's predicted contribution to any violating receptor would be below the SILs at the time of the predicted violation, IEPA concluded that the proposed Facility would not cause or contribute to the predicted exceedance of the NAAQS. Project Summary at 20; Modeling Addendum No. 2 at 8. In response to comments, IEPA explained as follows:

> [A] function of the de minimis or significant impact levels is to determine whether a proposed source should be considered to be causing or contributing to a violation. Prairie State's "culpability" analysis showed that the proposed

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[117] Petitioners do not cite either modeling analysis in their Petition or in their Reply. *See* Petition at 97-98; Reply at 16-17. The short-term SO_2 emission rate numbers attributed to the modeling of which Petitioners complain is, however, the emission rate included in the December 2003 modeling.

[118] IEPA also specifically responded to public comments on this issue explaining the commenters' error in failing to understand the rationale for excluding the highest concentrations and looking only at the second highest concentration. *See* Response to Comments at 123-24; *see also* CAA § 165(a)(3); 42 U.S.C. § 7475(a)(3). Because Petitioners have not identified any error in this response to comments, Petitioners' appeal of this issue must be dismissed. *See, e.g., In re Steel Dynamics, Inc.*, 9 E.A.D. 740, 744 (EAB 2001).

> plant would not have an impact above the significant impact levels for receptor/time combinations representing modeled NAAQS violations. Where only existing sources other than the proposed project are contributing above the significant impact level, the PSD program does not require that the applicant be denied a PSD permit * * * .

Response to Comments at 122. IEPA also quoted the NSR Manual as follows: "[t]he source will not be considered to cause or contribute to the violation if its own impact is not significant at any violating receptor at the time of each predicted violation. In such a case, the permitting agency, upon verification of the demonstration, may approve the permit." Response to Comments at 121 (quoting NSR Manual at C.52). Because the modeled exceedances of the 3-hour and 24-hour SO_2 NAAQS did not coincide at those receptors and times with impacts from the proposed Facility above the SILs, IEPA concluded that the proposed Facility will not cause or contribute to any violations of the 3-hour and 24-hour NAAQS. Modeling Addendum No. 2 at 8; Response to Comments at 120-26.

Petitioners object to IEPA's conclusion that Prairie State's proposed Facility should not be viewed as contributing to an exceedance of the NAAQS where it has a modeled impact, although the impact falls below the SILs. Petitioners assert that IEPA's use of the SILs as a threshold for determining whether the Facility contributes to a predicted NAAQS exceedance is "clearly legally erroneous." Petition at 89. Petitioners argue that Clean Air Act section 165(a)(3), which prohibits issuance of a permit where the proposed source would cause or contribute to a NAAQS violation, "does not use the term 'significant,'" and Petitioners argue that the term "must be read into the regulations to reach IEPA's conclusion." *Id.* at 92.

Notably, Petitioners do not claim that the SO_2 emission contributions of the proposed Facility pose a "significant" contribution to existing air pollution at the time and location of any predicted violations. Nor do Petitioners argue that IEPA failed to follow applicable federal regulations or guidance. Instead, Petitioners argue that IEPA erred in that IEPA erroneously read the term "significant" into the statutory text. Petitioners' arguments are not persuasive.

First, Petitioners' argument does not comport with the plain terms of the statute. Read in context, the requirement of an owner or operator to demonstrate that emissions from a proposed facility will not "cause, or contribute to" air pollution in excess of a NAAQS standard must mean that some non-zero emission of a NAAQS parameter is permissible, otherwise such a demonstration could not be made. Courts have long recognized that EPA has discretion under the Clean Air Act to exempt from review "some emission increases on grounds of de minimis or administrative necessity." *Alabama Power Co. v. Costle*, 636 F.2d 323, 400

(D.C. Cir. 1979).[119] Moreover, EPA has long interpreted the phrase "cause, or contribute to" to refer to significant, or non-de minimis, emission contributions. This interpretation is reflected in both applicable EPA regulations and in long-standing EPA guidance.

IEPA's determination that contributions of SO_2 from the proposed facility would not exceed the SILs, and therefore would not cause or contribute to a violation of the NAAQS, is consistent with EPA regulations, specifically the guidelines for air quality modeling published in Appendix W to 40 C.F.R. part 51.[120] With respect to SO_2 emissions, Appendix W states that, for sources located in attainment or unclassifiable areas, "the demonstration as to whether the source will cause or contribute to an air quality violation should be based on," among other things, "the *significance* of the spatial and temporal contribution to any modeled violation." 40 C.F.R. pt. 51, App. W, § 11.2.3.2(a) (emphasis added). Likewise, Appendix W states that for PM_{10}, the demonstration should be based on, among other things, whether "the source contributes *significantly*, in a temporal and spatial sense, to any modeled violation." *Id.* (emphasis added). Appendix W also provides considerable latitude for the permit issuer and EPA Regional Office to craft the specific requirements applicable to the particular permit review. *See, e.g.,* 40 C.F.R. pt. 51, App. W, § 11.2.1(a).

Longstanding Agency guidance demonstrates that "significance" and "significantly" used in Appendix W refers to the SILs. Although not framed precisely in the manner used by IEPA in the present case, in 1978, shortly after the 1977 amendments to the CAA became law, EPA introduced the notion of SILs as a threshold for determining what emissions are viewed as causing or contributing to a violation of the NAAQS or increments. *See 1977 Clean Air Act; Prevention of Significant Air Quality Deterioration,* 43 Fed. Reg. 26,379, 26,398 (June 19, 1978) ("since the air quality impacts of many sources falls off rapidly to insignificant levels, EPA does not intend to analyze the impacts of a source beyond the point where the concentrations from the source fall below certain levels"). The Agency subsequently issued guidance speaking more directly to the present issue. *See* Memorandum from Richard G. Rhodes, Director, Control Programs Development Division, U.S. EPA, to Alexandra Smith, Director, Air & Hazardous Materials Division, U.S. EPA Region 10, Regarding "Interpretation of 'Significant Contribution,'" (December 16, 1980) [hereinafter "Rhodes Memorandum"]. The Rhodes Memorandum explained that a source will not be viewed as causing or contributing to a violation if the source's impact is lower than the SILs at the location and time of the violation. *Id.*

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[119] *See also New York v. EPA*, __ F.3d __, 2006 WL 662746 (D.C. Cir. Mar. 17, 2006) (recognizing validity of exclusions based on de minimis impacts).

[120] The regulations governing PSD permitting require that the air quality and source impacts analyses must be conducted using the methods identified in Appendix W. 40 C.F.R. § 52.21(l).

In 1988, the Agency issued a memorandum describing and resolving the conflict between the approach Petitioners now argue is required and the one IEPA used in the present case. *See* Memorandum from Gerald A. Emison, Director, U.S. EPA Office of Air Quality Planning and Standards, to Thomas J. Maslany, Director, Air Management Division, Regarding "Air Quality Analysis for Prevention of Significant Deterioration (PSD)" (July 5, 1988) [hereinafter "Emison Memorandum"]. The Emison Memorandum resolved the conflict by rejecting the approach Petitioners advocate and "reaffirming" the Rhodes Memorandum. Emison Memorandum at 1 (citing Rhodes Memorandum).

The Emison Memorandum observed that "[h]istorically, the Environmental Protection Agency's (EPA's) position has been that a PSD source will not be considered to cause or contribute to a predicted NAAQS or increment violation if the source's estimated air quality impact is insignificant (i.e., at or below defined de minimis levels)." *Id.* at 1. The Emison Memorandum then noted that, under the first approach at issue:

> [A] proposed source would automatically be considered to cause or contribute to any modeled violation that would occur within its impact area. In this approach, the source's impact is modeled and a closed circle is drawn around the source, with a radius equal to the farthest distance from the source at which a significant impact is projected. If, upon consideration of both proposed and existing emissions contributions, modeling predicts a violation of either a NAAQS or an increment anywhere within this impact area, the source (as proposed) would not be granted a permit. The permit would be denied, even if the source's impact was not significant at the predicted site of the violation during the violation period.

Id. This is the approach that Petitioners argue must be used in the present case to evaluate whether IEPA committed clear error in finding that Prairie State's proposed Facility will not cause or contribute to a NAAQS violation. Petition at 95 (discussing the SILs as used to identify the "significant impact areas"). The Emison Memorandum describes the contrasting approach (which is the one IEPA used) as follows:

> The second approach similarly projects air quality concentrations throughout the proposed source's impact area, but does not automatically assume that the proposed source would cause or contribute to a predicted NAAQS or increment violation. Instead, the analysis is carried one step further in the event that a modeled violation is predicted. The additional step determines whether the emis-

> sions from the proposed source will have a significant ambient impact at the point of the modeled NAAQS or increment violation when the violation is predicted to occur. If it can be demonstrated that the proposed source's impact is not "significant" in a spatial and temporal sense, then the source may receive a PSD permit.

Emison Memorandum at 2.

The Emison Memorandum definitively rejected the first approach (i.e., Petitioners' approach), stating that "the most appropriate course of action to follow is the second approach which considers the significant impact of the source in a way that is spatially and temporally consistent with the predicted violations." *Id*. It also stated that this conclusion was "reaffirming previous Office of Air Quality Planning and Standards guidance provided in a December 1980 policy memorandum." *Id.* at 1 (referring to the Rhodes Memorandum, a copy of which was attached to the Emison Memorandum). Notably, the Emison Memorandum specifically referred to 40 C.F.R. § 51.165(b) as defining "significant." *Id.* at 1. Section 51.165(b) sets forth SILs that are also identified at page C.28 of the NSR Manual and which IEPA relied upon in the culpability analysis in the present case. Thus, the approach IEPA used in the present case is EPA's long-standing interpretation of the CAA.[121] In this regard, we note that IEPA's approach is consistent with the NSR Manual's guidance[122] and that the Board has previously recognized the ap-

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[121] *See also* Memorandum from James T. Wilburn, Chief, Air Management Branch, Air and Waste Management Division, U.S. EPA Region 4, to W. Fin Johnson, Chief, Air Quality Section, Division of Environmental Management, North Carolina Dept. Of Natural Resources & Community Development (July 12, 1984) ("a proposed source which causes a modelled [sic] violation of NAAQS can be approved if the source's contribution to total air quality levels at the site of the violation is less than the significance levels").

[122] The NSR Manual states: "The source will not be considered to cause or contribute to the violation if its own impact is not significant at any violating receptor at the time of each predicted violation. In such a case, the permitting agency, upon verification of the demonstration, may approve the permit." NSR Manual at C.52. IEPA stated that it was following this guidance in applying the SILs to determine whether an impact is "significant." Response to Comments at 121. Petitioners argue that IEPA cannot rely on the NSR Manual's guidance because, in Petitioners' view, IEPA must first comply with the following additional guidance in the NSR Manual: "the agency must also take remedial action through applicable provisions of the state implementation plan to address the predicted violation(s)." Petition at 92 (quoting NSR Manual at C.52). Petitioners contend that IEPA has not satisfied this alleged condition under the NSR Manual's guidance. *Id.* We reject this contention finding no indication in the NSR Manual that completion of remedial action is a prerequisite for the Manual's statement that "the permitting agency, upon verification of the demonstration [that the proposed facility's contribution is not significant], may approve the permit." NSR Manual at C.52. Rather, the identification through modeling of a potential violation of the NAAQS requires the permitting authority to address the causes of the violation (i.e., the other sources that significantly contribute to the violation) as a matter independent of the permitting action in which the inemodeling was conducted, which is what IEPA has stated it will do in the present case.

proach used by IEPA in this case as a valid method for determining whether a source will cause or contribute to a violation of the NAAQS. *See In re AES Puerto Rico, L.P.*, 8 E.A.D. 324, 343-44 (EAB 1999) (citing Emison Memorandum).

Petitioners in essence contend that, because CAA section 165(a)(3) does not use the term "significant," IEPA was barred from using the SILs as a threshold for determining what constitutes "cause or contribute."[123] Petitioners' proposed interpretation of the statutory text, however, is at odds with the long-standing recognition that EPA has discretion to exempt from review "some emission increases on grounds of de minimis or administrative necessity." *Alabama Power Co. v. Costle*, 636 F.2d 323, 400 (D.C. Cir.1980).

Significantly, Petitioners have not alleged that IEPA's decision in the present case is an abuse of the discretion to exempt de minimis emissions from PSD review. IEPA specifically stated in its response to comments that "[t]he exceedances predicted by the air quality analysis are not coincident with locations and time periods for which Prairie State emission units in the aggregate are predicted to contribute significantly, *i.e. by more than a de minimis amount*." Response to Comments at 122 (emphasis added). IEPA explained further that the "de minimis or significant impact levels under the PSD Program" "reflect levels that have been established at small fractions of the applicable NAAQS to distinguish between impacts that are trivial and impacts that are worthy of further investigation and analysis." Response to Comments at 122. Petitioners have not identified any evidence or Agency guidance showing that it was clear error for IEPA to conclude that the Facility's modeled impacts at the receptors and times of the identified NAAQS violations were anything more significant than de minimis or trivial. Moreover, Petitioners have not cited any evidence or applicable Agency policy that would demonstrate any abuse of discretion in IEPA's decision on the facts of this case to follow the long-standing Agency policy discussed above. Accordingly, we conclude that Petitioners have not shown grounds for us to grant

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[123] In their reply brief, Petitioners argue for the first time that "[i]f USEPA intended Appendix W to apply the 'significant impact levels' it would have used that term in the language of the regulation." Petitioners' Reply at 15. Petitioners interpret Appendix W's text to mean that if the source's contribution "is insignificant, that is zero, then that does not qualify as a contribution." *Id.* Petitioners offer no citation to Agency policy statements to support their assertion that any contribution greater than "zero" cannot be viewed as insignificant and must be viewed as significant. We reject Petitioners' interpretation not only because it is untimely, but also because it is contrary to EPA policy statements discussed above. In particular, Petitioners' interpretation of Appendix W's text fails to recognize that the Emison Memorandum, which like Appendix W referred to "'significant' in a spatial and temporal sense," stated that the term "significant" is defined in 40 C.F.R. § 51.165(b). Emison Memorandum at 1-2. Section 51.165(b) sets forth SILs that are also identified at page C.28 of the NSR Manual. For this reason, we find unpersuasive Petitioners' contention made for the first time in their reply brief that Appendix W's reference to "significant" should be interpreted as anything greater than "zero" and cannot be viewed as referring to the SILs.

review of IEPA's conclusion that Prairie State's proposed Facility will not cause or contribute to a violation of the SO_2 and PM_{10} NAAQS.

2. *Additional Impacts Analysis for Ozone (40 C.F.R. § 52.21(o))*

The PSD regulations require that the permit applicant "shall provide an analysis of the impairment to visibility, soils and vegetation that would occur as a result of the source * * * and general commercial, residential, industrial and other growth associated with the source * * * ." 40 C.F.R. § 52.21(o). This requirement is often referred to as the "additional impacts analysis."

In the present case, the Petitioners argue that IEPA committed clear error by accepting Prairie State's additional impacts analysis of its proposed Facility's impact on soils and vegetation by looking to whether the Facility will comply with the ozone NAAQS. Petition at 98-100. The Petitioners argue that this is clearly erroneous on the grounds that the additional impacts analysis interpreted in this way is redundant with the air quality impacts analysis required by a separate section of the regulations. *Id.*

We must reject review of this issue on the grounds that Petitioners have merely restated comments submitted during the public comment period without discussing or showing any error in IEPA's response to those comments. "It is not sufficient simply to repeat objections made during the comment period; instead, a petitioner 'must demonstrate why the [permit issuer's] response to those objections (the [permit issuer's] basis for its decision) is clearly erroneous or otherwise warrants review.'" *In re Steel Dynamics, Inc.*, 9 E.A.D. 740, 744 (EAB 2001) (quoting *In re LCP Chems.*, 4 E.A.D. 661, 664 (EAB 1993)); *accord In re Peabody W. Coal Co.*, 12 E.A.D. 22, 33 (EAB 2005); *In re Tondu Energy Co.*, 9 E.A.D. 710, 714 (EAB 2001); *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 251-52 (EAB 1999).

Here, IEPA provided an extensive response to comments regarding the additional impacts analysis. *See* Response to Comments at 135-40. In particular, IEPA explained, among other things, that the "[s]econdary National Ambient Air Quality Standards (PM_{10}, SO_2, NO_2, ozone, and lead) are public welfare-based standards and are considered to be protective of plants, animals and soils. Modeling results for the proposed plant do not exceed the secondary NAAQS." Response to Comments at 135. IEPA also explained that "[t]he ozone air quality standards are 'primary' and 'secondary' standards," which means that "these standards are regarded as protective of both public welfare (plants, animals, and soils) and human health." *Id.* at 137 (identifying compliance with the 1-hour and 8-hour ozone NAAQS). We note in this regard that IEPA's response is consistent with EPA guidance. *See* NSR Manual at D.5 ("For most types of soil and vegetation, ambient concentrations of criteria pollutants below the secondary national ambient air quality standards (NAAQS) will not result in harmful effects."). IEPA

stated further that "Prairie State's 'Additional Impacts Analysis' included a qualitative assessment of ozone impacts on vegetation" and that "the PSD regulations only require an analysis of the impacts of a proposed plant on vegetation that has a significant commercial or recreational value." Response to Comments at 135-36. The Petition does not refer to IEPA's responses to public comments on this issue, and in particular, it does not identify ozone impacts to, among other things, vegetation with a significant commercial or recreational value that was not adequately considered in what IEPA identified as Prairie State's "qualitative assessment of ozone impacts on vegetation" or in the analysis of the Facility's compliance with the ozone NAAQS. *See* Petition at 98-100.[124]

In their reply brief, Petitioners attempt to explain the failure of their Petition to speak to IEPA's response to comments. Petitioners argue that their Petition addressed IEPA's response to comments by arguing that "the acceptable ozone impact level in the soils and vegetation analysis is much lower than the impact levels used in the NAAQS analysis." Petitioners' Reply at 17. Although Petitioners argue that "sensitive" vegetation may be impacted by ozone levels below the secondary NAAQS, Petitioners have not identified vegetation with a significant commercial or recreational value that would be impacted by emissions from Prairie State's Facility. Thus, Petitioners' argument does not speak to a key feature of IEPA's response to comments, namely that the additional impacts analysis looks to impacts to vegetation with a significant commercial or recreational value. Response to Comments at 135-36. Having failed to address IEPA's response to comments on this issue, we must deny review on the grounds that Petitioners have not sustained their burden of proof that IEPA clearly erred.[125] *See In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 130 (EAB 1997) (denying review of the additional impacts analysis where the petitioner failed to identify vegetation with a significant commercial or recreational value that would be impacted by emissions from the proposed facility).

3. *Class I Area: Mingo National Wildlife Refuge (40 C.F.R. § 52.21(p))*

The PSD regulations require the permit issuer to provide special notice to the Federal land manager ("FLM") responsible for any Class I area that may be

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[124] More specifically, Petitioners have not alleged, much less shown, that what IEPA identified as Prairie State's "qualitative assessment of ozone's impact on vegetation" failed to comply with the NSR Manual's guidance.

[125] We also reject Petitioners' contention that the additional impacts analysis in this case was conducted in a manner that was redundant with the NAAQS review – IEPA specifically considered the impacts of growth associated with the proposed Facility and impacts of pollutants for which there are no NAAQS. Response to Comments at 135-40. Thus, IEPA did not treat the additional impacts analysis as redundant or fully satisfied by the NAAQS analysis.

affected by the proposed source. 40 C.F.R. § 52.21(p)(1). The permit issuer must consider any analysis presented by the FLM concerning the proposed source's adverse impacts on the air quality-related values, including visibility impacts on the affected Class I area. *Id.* § 52.21(p)(3), (4).

All areas subject to PSD review are classified as either Class I, Class II, or Class III. *See In re Knauf Fiber Glass, GmbH,* 8 E.A.D. 121, 154 (EAB 1999). Class I areas are generally national wilderness areas and national memorial parks that exceed 5,000 acres, national parks that exceed 6,000 acres, and any other area that has been designated Class I by regulation. 40 C.F.R. § 52.21(e). The allowable air quality increments are smaller for Class I areas. 40 C.F.R. § 52.21(c).

In the present case, Prairie State provided an analysis of the proposed Facility's modeled impacts on Class I increment consumption, visibility, and acid deposition at the portion of the Mingo National Wildlife Refuge that is a national wilderness area. Project Summary at 22. The Mingo National Wildlife Refuge is located in southeastern Missouri, approximately 170 kilometers away from the proposed Facility. *Id.*[126] The Mingo refuge consists of over 21,700 acres, of which approximately 7,700 acres are a national wilderness area. *Id.*

Prairie State's analysis showed that its proposed Facility will not cause an exceedance of the Class I area increments. Project Summary at 23. Prairie State also concluded that its proposed Facility will not have an adverse impact on visibility and other air quality related values at Mingo. IEPA stated in the Project Summary that it agreed with Prairie State's analysis – specifically, IEPA concluded that it "does not believe that there is sufficient information to find that the proposed plant would have an adverse impact on visibility at the Mingo Wilderness." Project Summary at 26. The FLM responsible for the Mingo national wilderness area submitted to IEPA the FLM's determination that "emissions from the proposed Prairie State facility will have an adverse impact on air quality related values at the Mingo Wilderness." Letter from Paul Hoffman, Acting Assistant Secretary, U.S. Department of the Interior, to David J. Kolaz, Chief, Bureau of Air, IEPA, at 1 (May 14, 2004).[127] Subsequently, IEPA rejected the FLM's adverse impact finding and provided a detailed discussion of issues regarding the Class I modeled impacts. Response to Comments at 141-149; Letter from Laurel

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[126] According to EPA guidance, a proposed source "may affect" a Class I area if the source will locate within 100 kilometers (approximately 62 miles) of any such area. *See In re Knauf Fiber Glass, GmbH,* 8 E.A.D. 121, 155 (EAB 1999) (citing NSR Manual at E.16). Here, the Mingo refuge is located more than 100 kilometers from Prairie State's proposed Facility. Nevertheless, IEPA instructed Prairie State to perform modeling of impacts on Mingo. Letter from Don Sutton, IEPA, to Lars Scott, Prairie State (Jan. 25, 2002).

[127] Certified Index of the Administrative Record, Document No. 160 (identified as facsimile sent May 17, 2004).

L. Kroack, Acting Chief, Bureau of Air, IEPA, to Paul Hoffman, Deputy Assistant Secretary, U.S. Department of the Interior (Jan. 13, 2005) [hereinafter "IEPA Response Letter to FLM"]. IEPA also explained that the final Permit contains a number of changes to the draft permit not considered in the FLM's analysis "that were made to ameliorate any potential adverse impacts on the Mingo Wilderness Area from the proposed coal-fired power plant." Response to Comments at 143; IEPA Response Letter to FLM at 2-3.

Petitioners do not appear to challenge Prairie State's analysis, in which IEPA concurred, showing that Prairie State's proposed Facility will not cause or contribute to an exceedance of the Class I area increments applicable to the Mingo national wilderness area. *See* Petition at 69-76 (not discussing Class I increment analysis). Instead, Petitioners object to IEPA's rejection of the FLM's determination that Prairie State's proposed Facility will have an adverse impact on visibility and other air quality-related values of the Mingo Class I area. *Id.* Specifically, Petitioners argue that the USEPA may not issue a permit if, as Petitioners contend is the case here, the FLM has demonstrated an adverse impact on the air quality-related values (including visibility) of Class I lands. *Id.* at 69-70. Petitioners argue further that IEPA has not provided a rational basis for its decision to reject the FLM's adverse impact finding. *Id.* at 70-73. Petitioners also contend that certain changes IEPA made in the final Permit, as compared to the draft permit, are not adequate to address the FLM's concerns regarding adverse impacts. *Id.* at 71-75. Finally, Petitioners contend that IEPA failed to adequately notify the public of both the FLM's adverse impact finding and IEPA's rationale for rejecting that finding. *Id.* at 75-76.

For the following reasons, we conclude that Petitioners' arguments fail to show clear error in IEPA's analysis or other grounds warranting review.

a. *Notice to the Public*

Petitioners argue the Permit should be remanded on the grounds that IEPA failed to adequately notify the public of both the FLM's adverse impact finding and IEPA's rationale for rejecting that finding. *Id.* at 75-76. Specifically, Petitioners argue that the public notice IEPA provided did not comply with 40 C.F.R. § 52.21(p)(3). *Id.* As explained below, we disagree with Petitioners' interpretation of the applicable regulations.

Petitioners are mistaken that public notice provided by IEPA is inconsistent with 40 C.F.R. 52.21(p)(3). The applicable regulations do not require, under the circumstances of this case, a more detailed notice to the public than IEPA gave.

Section 52.21(p)(1) requires the permit issuer[128] to provide written notice to the FLM of any permit application "at least 60 days prior to any public hearing on the application." 40 C.F.R. § 52.21(p)(1). The regulations then require the permit issuer to "consider any analysis performed by the Federal land manager, provided within 30 days of the notification required by paragraph (p)(1) of this section, that shows that a proposed new major stationary source or major modification may have an adverse impact on visibility in any Federal Class I area." 40 C.F.R. § 52.21(p)(3). Where the permit issuer "finds that such an analysis does not demonstrate to the satisfaction of the [permit issuer] that an adverse impact on visibility will result in the Federal Class I area, the [permit issuer] must, in the notice of public hearing on the permit application, either explain his decision or give notice as to where the explanation can be obtained." *Id.* The regulatory text's plain meaning is that the public notice must explain a permit issuer's decision to reject the FLM's adverse impact analysis when that analysis is "provided within 30 days of the notification required by paragraph (p)(1) of this section." 40 C.F.R. § 52.21(p)(3).

In the present case, IEPA provided the notice required by section 52.21(p)(1) to the FLM of the permit application more than 60 days prior to the public hearing on the draft permit. Specifically, IEPA explained in its response to comments that it "gave notice of the Prairie State application to the Federal Land Manager in mid-April 2002." Response to Comments at 146. Petitioners have not alleged any error in this response to public comments. Thus, we find no clear

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[128] The regulation refers to the "Administrator" as required to provide notice to the FLM. 40 C.F.R. § 52.21(p)(1). The Administrator's authority and responsibilities under the PSD permitting regulations have been delegated to IEPA. 46 Fed. Reg. 9580, 9582 (Jan. 29, 1981). States acting with delegated authority "stand[] in the shoes of the Regional Administrator." *In re West Suburban Recycling & Energy Ctr., LP*, 6 E.A.D. 692, 707 (EAB 1996). As we explained in footnote 1 above, permits issued by states acting with delegated authority are considered EPA-issued permits. *In re SEI Birchwood, Inc.*, 5 E.A.D. 25, 26 (EAB 1994); *see also In re Hadson Power 14-Buena Vista*, 4 E.A.D. 258, 275-86 (EAB 1992). Because IEPA acts as EPA's delegate in implementing the federal PSD program within the State of Illinois, the Permit is considered an EPA-issued permit for purposes of federal law, and is subject to review by the Board pursuant to 40 C.F.R. § 124.19. *See, e.g., In re Hillman Power Co., LLC*, 10 E.A.D. 673, 675 (EAB 2002); *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 40-41 n.1 (EAB 2001). To the extent that Petitioners are seeking review of the fact that IEPA performed PSD review functions assigned by the regulations to the "Administrator," *see* Petition at 69-70; Petitioners' Reply at 18-19, Petitioners have not shown that they raised this issue during the public comment period, which is a necessary predicate for raising an issue on appeal. *See, e.g., In re Sutter Power Plant*, 8 E.A.D. 680, 687 (EAB 1999); *In re RockGen Energy Ctr.*, 8 E.A.D. 536, 694 (EAB 1999). To the extent that Petitioners argue that our review of IEPA's permitting decision with respect to the FLM's adverse impact determination should be considered under a standard different from that which we use for other delegated permitting decisions under 40 C.F.R. part 124, *see* Petitioners' Reply at 19, Petitioners' contention must fail. *Hadson Power*, 4 E.A.D. at 276 n.26, which Petitioners cite, does not suggest that the standards for granting or denying review under part 124, such as the requirement that issues be raised during the public comment period and the Petitioners' burden of establishing clear error, are relaxed or otherwise modified when the Board considers matters relating to an FLM's adverse impact analysis.

error in the notice IEPA provided to the FLM. Notwithstanding notice to the FLM of the Prairie State application in mid-April 2002, IEPA had not received an adverse impact determination from the FLM when IEPA issued its public notice in February 2004 of the draft permit and opportunity for public comment. Instead, the FLM provided its adverse impact determination to IEPA by letter dated May 14, 2004. Letter from Paul Hoffman, Acting Assistant Secretary, U.S. Department of the Interior, to David J. Kolaz, Chief, Bureau of Air, IEPA (May 14, 2004) [hereinafter "FLM's Adverse Impact Letter"]. Nevertheless, the FLM had communicated concerns to IEPA at earlier times, and IEPA's notice to the public opening the public comment period and establishing the public hearing provided notice regarding the information it had received from the FLM. In the February 2004 public notice, IEPA stated as follows:

> The U.S. Fish and Wildlife Service has submitted information to the Illinois EPA for this hearing about the proposed plant's potential impacts on the Mingo Wilderness Area, including background information about the Mingo Wilderness Area and an analysis of the visibility modeling submitted for this area by Prairie State. These documents are available at the repositories listed below and are further addressed by the Illinois EPA in the project summary prepared for this application.

Notice of Public Hearing and Comment Period (Certified Index of the Administrative Record, Document No. 160). IEPA's notice to the public also referenced IEPA's Project Summary, which provided a detailed description of IEPA's conclusions and IEPA's agreement with Prairie State's analysis of the proposed Facility's anticipated impacts to the Mingo Class I area. *Id.*; Project Summary at 22-26. Petitioners simply have not shown that this notice was inadequate in light of the information available to IEPA in February 2004 when the notice was provided to the public. Under these circumstances, we reject Petitioners' argument that IEPA's notice to the public was inadequate and that a remand is necessary to provide the public notice contemplated by the regulations.

We specifically reject Petitioners' implied contention that the adequacy of the February 2004 notice must be judged based upon the information subsequently provided by the FLM as part of its May 14, 2004 letter setting forth the FLM's adverse impact determination. We hold instead that where, as here, the permit issuer provided notice to the FLM that complies with 40 C.F.R. § 52.21(p)(1), and the FLM did not make an adverse impact determination and provide such determination to the permit issuer in the time frame specified in 40 C.F.R. § 52.21(p)(3), the regulations do not require the permit issuer to subsequently provide a new notice to the public when the FLM issues a later adverse impact finding. The Petitioners' argument would lead to delay in the permitting

proceedings that is neither contemplated nor countenanced by the regulations.[129] Accordingly, review on this ground is denied.

b. *IEPA's Rationale for Rejecting the FLM's Determination*

The CAA provides that a permit shall not be issued "[i]n any case where the Federal Land Manager demonstrates to the satisfaction of the State that the emissions from [a proposed] facility will have an adverse impact on the air quality-related values (including visibility) of [Class I] lands." CAA § 165(d)(2)(C)(ii); 42 U.S.C. § 7475(d)(2)(C)(ii). The regulations governing the PSD program similarly provide as follows:

> The Federal Land Manager of any [Class I] lands may demonstrate to the Administrator that the emissions from a proposed source or modification would have an adverse impact on the air quality-related values (including visibility) of those lands * * * . If the Administrator concurs with such demonstration, then he shall not issue the permit.

40 C.F.R. § 52.21(p)(4). In cases, such as this, where the proposed Facility will not cause or contribute to an exceedance of the Class I increment, the FLM[] bear[s] the burden of demonstrating an adverse impact. *In re Hadson Power 14 -Buena Vista*, 4 E.A.D. 258, 276 (EAB 1992). "States do not have unfettered discretion to reject an FLM's adverse impact determination." *Id.* "If a state determines that an FLM has not satisfactorily demonstrated an adverse impact * * * the state must provide a 'rational basis' for such a conclusion." *Id.* (citing *In re Old Dominion Elec. Coop.*, 3 E.A.D. 779, 783 n.9 (Adm'r 1992), and *State Implementation Plans for Visibility New Source Review and Monitoring Strategy*, 50 Fed. Reg. 28,544, 28,549 (July 12, 1985)). Further, "[a]rbitrary and capricious rejections of adverse impact determinations are not sustainable." *Id.*

In the present case, Petitioners argue that IEPA did not provided a rational basis for rejecting the FLM's adverse impact finding. Petition at 70-73. Upon con-

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[129] We do not endorse Prairie State's argument that "[g]iven that the adverse impact determination was not submitted to IEPA within the time specified in the regulation (*i.e.*, within 30 days of notification), IEPA was not required to include any rationale in the Public Notice or elsewhere." Prairie State Response at 141. Instead, we conclude that IEPA's notice was adequate given the state of the record at the time it issued its notice to the public in this case. In particular, we note that this is not a case where the FLM's adverse impact determination, although provided to the permit issuer outside section 52.21(p)(3)'s time frame, nevertheless was available before the permit issuer provided notice to the public. To the contrary, as discussed above, the adverse impact determination was provided to IEPA after it provided public notice and IEPA included notice to the public of the information that was available to IEPA at the time of the public notice. The regulations do not require more.

sideration, however, we conclude that Petitioners have failed to show that IEPA's decision to accept Prairie State's analysis of the Class I area impacts and to reject the FLM's adverse impact determination is clearly erroneous or otherwise warrants review.

IEPA articulated its rationale for rejecting the FLM's finding in an extensive discussion in both IEPA's response to comments and in a letter to the FLM. Response to Comments at 141-49; IEPA's Response Letter to FLM. IEPA's rationale can also be discerned from several earlier documents presenting IEPA's analysis during the course of its consultation with the FLM. *See, e.g.*, Project Summary at 22-26. At the time IEPA issued its decision not to concur with FLM's determination, IEPA had before it air quality modeling and analysis prepared by Prairie State dated July 2003, August 2003, December 2003, January 2004, and July 2004; two reports on visibility and human perception prepared by Dr. Ivar Tombach; a report on acid deposition and the buffering effects of native soils prepared by Dr. James Kramer; and two sets of written comments from Prairie State. *See* Earth Tech, Inc., Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station at the Mingo Wilderness Area (July 2003); Earth Tech, Inc., Addendum: Cumulative Impact Analysis Prairie State Generating Station (Aug. 2003); Ivar Tombach, Human Perception of Visibility Impairment at the Mingo National Wildlife Refuge and Wilderness Area (July 6, 2003); James R. Kramer, Aquatic Assessment of Mingo Wildlife Area (Aug. 1, 2003); Modeling Addendum 1 (Dec. 9, 2003); Addendum: Updated Class I Increment Analysis for the Prairie State Generating Station and Calculation of the Maximum Compliant Emission Rate (Jan. 14, 2004); Letter from Dianna Tickner, Prairie State, to Chris Romaine, IEPA (April 19, 2004); Letter from Dianna Tickner, Prairie State, to Dave Kolaz, IEPA (June 21, 2004); Ivar Tombach, Comments Concerning the USFWS Adverse Impact Letter Concerning the Prairie State Generating Station (June 21, 2004); Earth Tech, Inc., Addendum: Updated Cumulative SO_2 Class I Increment Analysis for the Prairie State Generating Station (July 7, 2004). IEPA also had before it the FLM's May 14, 2004 letter setting forth the FLM's adverse impact finding and additional information the FLM submitted in January 2004. The record also shows that IEPA and the FLM's staff met on a number of occasions and communicated regularly throughout this period.

In an attachment to its May 14, 2004 letter, the FLM gave several reasons for its adverse impact finding, which rejected Prairie State's analysis and modeling. The FLM based its reasoning on the Federal Land Manager's Air Quality Related Values Workgroup (FLAG) Phase I Report (Dec. 2000) [hereinafter "FLAG Guidance"]. FLM's Adverse Impact Letter, attach. at 6. The FLM observed that Prairie State's visibility analysis and modeling departed from the FLAG Guidance and that the visibility modeling "that most closely followed the FLAG guidance" predicted adverse impacts on visibility above the 5% light extinction threshold (36 days out of three years) and over the 10% extinction thresh-

old (12 days out of three years). *Id.* The FLM stated that it did not agree with Prairie State's expert, Dr. Tombach, who suggested changes in the FLAG guidance for evaluating Prairie State's impacts. The FLM stated "[w]e welcome objective discussion of FLAG thresholds and sound scientific examination of the FLAG methodology, *but we believe it should be outside the context of any ongoing PSD permit process * * *.*" *Id.* (emphasis added). The FLM observed further that Prairie State's modeled atmospheric deposition of sulfates and nitrates "exceed the deposition thresholds set in the FLAG guidance and indicate a level where harmful effects may occur." *Id.* The FLM also expressed concern over the emissions limit Prairie State used in performing its modeling, noting that Prairie State used the Permit's SO_2 and NO_X emissions limits with a 30-day averaging time, rather than the Permit's limits stated as a 24-hour averaging time. *Id.* at 7-8. The FLM stated that "the values used in the air quality analysis must be consistent with the permit limits." *Id.* at 8. Finally, the FLM suggested, however, that reductions "from current existing emissions near [Prairie State]" could offset the proposed Facility's impacts. *Id.* at 8.[130]

In articulating its rationale for rejecting the FLM's adverse impact finding, IEPA spoke directly to each issue raised by the FLM explaining why IEPA did not share the FLM's concerns, and IEPA also stated that the final Permit contains a number of more restrictive permit conditions designed to address the FLM's concerns. Specifically, IEPA explained that "the FLAG document is guidance, not rule, and therefore should not be afforded the same weight as a promulgated regulation, but rather, the weight typically provided to a guidance document." IEPA Response Letter to FLM at 5 (footnote omitted). More specifically, IEPA stated that it is not appropriate for the FLM "to have publicly taken the position that no adjustments to the FLAG model may be considered." *Id.* at 6. IEPA stated further that the FLAG Guidance "must be interpreted to include the effects of weather phenomena (rain, snow, fog, drizzle, etc.) on natural background light extinction and visitor use of the Class I area." *Id.* at 5. Taking adjustments for these conditions into account, IEPA noted that Prairie State's analysis and modeling showed only five days exceeding the 5% extinction threshold and one day exceeding the 10% extinction threshold over the three years modeled and that when hours of

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[130] The FLM raised a number of other issues that are either addressed elsewhere in this decision or have not been raised on appeal by Petitioners. FLM's Adverse Impact Letter, attach. at 9-12 (identifying issues regarding the Class I increment inventory, BACT for PM/PM_{10}, and BACT for SO_2). In particular, FLM raised concerns regarding the rejection of coal-washing as BACT for SO_2 emissions, which is an issue that Petitioners have raised on appeal both as a BACT issue and as an issue specific to the obligation to consult with the FLM. Petition at 50-56, 73. On this issue, IEPA noted in its Response Letter to FLM that "these comments will be addressed with other comments received on this subject during the public comment period" and that the FLM "did not identify any specific concerns with the coal washing analysis performed by Prairie State." IEPA's Response Letter to FLM, attach. at 8-9. We conclude that Petitioners have not shown clear error in IEPA's reasons for rejecting the FLM's comments on these issues.

visitation are considered, it is reduced "to only four days in three years when either of the thresholds is exceeded." *Id.* IEPA stated further that Dr. Ivar Tombach's analysis shows "that there would not be an adverse visibility impact." *Id.* at 6.

With respect to the issue of sulfur and nitrogen deposition, IEPA explained that site-specific factors will have a neutralizing effect and, citing Dr. Kramer's analysis, IEPA stated that "the record contains evidence that supports that the depositional impacts will be non-detectable." *Id.* at 6-7. IEPA specifically concluded, "We find Dr. Kramer's analysis persuasive regarding the site-specific factors at Mingo." *Id.* at 7. With respect to the issue of modeling based on the 30-day average emissions limit, IEPA stated that the 30-day emissions rate is protective of air quality and air quality related values and that modeling should not be "excessively conservative." *Id.*

Finally, IEPA explained that it had decided to make several changes in the Permit that were not considered by the FLM in its analysis and that are likely to address the FLM's concerns. In particular, IEPA explained:

> These permit enhancements for the coal-fired boilers include (1) reducing the BACT limit for nitrogen oxide (NO_X) emissions from 0.08 lbs/mmBtu to 0.07 lbs/mmBtu, (2) provisions for reducing the daily sulfur dioxide (SO_2) emission limit by 20% within 24 months of start-up of the boiler (from 0.42 to 0.32 lbs/mmBtu), (3) setting a BACT limit for SO_2 in terms of control efficiency, i.e., requiring that Prairie State achieve 98% reduction in SO_2 emissions on a rolling 12-month basis, and (4) re-evaluating the SO_2 and particulate matter limits after several years of operating data have been accumulated and reducing those limits if lower limits can be reliably met.

Id. at 2. IEPA also explained that Prairie State has agreed to voluntarily accept a lower annual limitation on SO_2 emissions during the first years of operation and to purchase additional SO_2 credits equal to 25% of its actual emissions (above what Prairie State would otherwise be required to purchase), which shall continue until the implementation of an additional cap-and-trade program or other SO_2 emissions limiting regulations are adopted. *Id.* IEPA also explained that the FLM's analysis failed to take into account the significant pollutant emissions reductions achieved in recent years under the Acid Rain Program, the NO_X SIP Call Program, and reductions obtained through litigation involving the Baldwin power plant and creditable pollution reductions geographically proximate to Mingo. *Id.* at 3-4.

On appeal, Petitioners launch a broad attack claiming that IEPA did not provide a rational basis for rejecting the FLM's adverse impact finding. Petitionat 70-71. We reject this contention as a general matter: IEPA's Response Letter to FLM and other communications with the FLM's staff in the record reflect both early notification to the FLM and careful consideration of the FLM's comments throughout the proceeding. IEPA's Response Letter to FLM also presents a facially rational resolution of the issues raised.

Petitioners also raise a number of particular issues on which they contend IEPA's analysis fails to meet the standard of rationality. First, Petitioners argue that IEPA erred by approving visibility modeling that departed from the FLAG Guidance. Petitioners' Reply at 19-20. We specifically reject Petitioners' contention that IEPA was required to adhere to the FLAG Guidance in all respects and was not allowed to make adjustments based on IEPA's case-specific determinations in this matter. With respect to other guidance documents, we have frequently held that "an agency cannot, consistent with the Administrative Procedure Act, utilize * * * [a] policy statement as if the policy were a 'rule' issued in accordance with APA 'rulemaking procedures'" and that "[t]he agency must, in some meaningful way, keep an 'open mind' about the issues addressed in the policy document, and cannot act as if those issues are no longer subject to debate." *Employers Ins. of Wausau,* 6 E.A.D. 735, 761 (EAB 1997). In particular, the Agency "must be prepared 'to re-examine the basic propositions' on which the Policy is based [] in any case in which those 'basic propositions' are genuinely placed at issue." *Id.* (citation omitted; citing *McLouth Steel Products Corp. v. Thomas,* 838 F.2d 1317 (D.C. Cir. 1988)). In the present proceeding, Prairie State challenged certain assumptions or policy positions set forth in the FLAG Guidance and provided expert evidence supporting proposed case-specific deviations from the FLAG analysis. As a result, IEPA was required to "re-examine the basic propositions" of the FLAG Guidance that Prairie State placed at issue and to consider the evidence put into the record by Prairie State. Petitioners have not shown on appeal that IEPA's analysis of this evidence and its conclusions based on the record of this proceeding are clearly erroneous or fall below the standard of rationality.

Second, Petitioners contend that "IEPA did not address [the FLM's] concern that [Prairie State's] modeling was using a 30-day rolling average for SO_2, and not a 24-hour average." Petition at 72; *see also* Petitioners' Reply at 20. This contention is plainly false – IEPA specifically explained why it found the modeling based on a 30-day average to be appropriate:

> The 30-day rolling average emission rate is believed to be protective of air quality and air quality related values (including visibility) in the Mingo Wilderness. Regardless, infrequent, short-term excursions at higher emission rates would not be expected to result in visibility impacts sig-

> nificantly different from those based upon the Method 7 analysis used for the 30-day rolling average emission rate, and thus would not be expected to alter the Illinois EPA's conclusions regarding visibility impacts in this Class I area. Based on information in the record, the likelihood of the worst meteorological conditions and operation at the 0.42 lb/mmBtu short-term limit occurring simultaneously is 0.015%, or in other terms, 1 day in 18 years. Given that low probability, analyzing visibility impacts using the short-term limit as suggested by [FLM] would significantly and unreasonably overstate the potential impacts to Mingo. While the models may be conservative, they should not be excessively conservative.

IEPA's Response Letter to FLM at 7.[131] Petitioners simply have not convinced us that the modeled 30-day average emissions rate misrepresents the proposed Facility's likely impact in the circumstances of this case where the 30-day average emissions rate is supported by a 98% control efficiency limit and the Class I area at issue is located 170 kilometers from the Facility. Moreover, as we noted in our discussion above in Part II.D.1.b, when considering modeling used to determine compliance with the ozone NAAQS, the regulations in 40 C.F.R. part 51, Appendix W, vest considerable discretion in the permit issuing authority's judgment in selecting appropriate modeling protocols, including the modeled emission rate. Thus, on the record of this proceeding, we conclude that Petitioners have failed to show that IEPA committed clear error or that IEPA's analysis fell below the standard of rationality in approving use of the 30-day average emissions limit in the modeling of impacts on visibility and other air quality-related values applicable to the Mingo Class I area.

Petitioners also argue that IEPA erred when it stated in its response to comments that the Permit's daily SO_2 limit will be reduced by 20% within 24 months of startup. Petition at 73 (citing Response to Comments at 142-144). Petitioners contend that the final Permit only requires an optimization plan and allows Prairie State to avoid reducing the emissions limit by claiming "unacceptable or unreasonable consequences." Petition at 73-74. We reject these arguments as plainly false: the Permit clearly and unequivocally states that the 3,126 lb/hour emissions limit for SO_2 (24-hour average) is reduced to 2,450 lb/hour no later than 24 months after initial startup of the boiler. Permit at 23, ¶ 2.1.7(a)(ii). This Permit

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[131] We note that the probability analysis referenced by IEPA was prepared before IEPA had imposed the 98% removal efficiency condition in the final Permit, thereby further assuring that modeling reflects the likely emissions from the Facility. *See* Permit at 16, ¶ 2.1.2(b)(ii)(B). The probability analysis is set forth at page 9 of Modeling Addendum 1 (Dec. 9, 2003). In addition, this analysis does not take into account that the 0.42 lb/MMBtu emissions limit is automatically reduced to 0.32 lb/MMBtu no later than 24 months after initial startup. Permit at 23, ¶ 2.1.7(a)(ii).

condition is not qualified or limited by reference to "unacceptable or unreasonable consequences." *Id.*[132] Accordingly, we reject Petitioners' request for review on this issue.[133]

Finally, Petitioners object that the Permit's conditions requiring "over-purchase" of SO_2 credits of 25% above the Facility's actual emissions is "hollow" because it only lasts a few years and because the purchase of credits in a national trading program cannot be shown to reduce emissions in the vicinity of Mingo. Petition at 74. This contention, however, does not establish grounds for granting review of the Permit. IEPA did not claim that any specific or predictable SO_2 reduction would result in the vicinity of Mingo from this over-purchase requirement. At the same time, it is facially apparent that Prairie State's over-purchase of SO_2 credits will contribute incremental market pressure under the Acid Rain Trading Program for reductions of SO_2 emissions by facilities subject to the program. As IEPA noted in its letter to the FLM, SO_2 emissions from coal-fired power plants in Illinois have been reduced from 731,379 tons in 1996 to 336,586 tons in 2002; and the Baldwin plant located 20 kilometers from Prairie State's proposed Facility has recently reduced its emissions by over 200,000 tons per year. Petitioners' argument also fails to speak to IEPA's identification of "creditable offsets" from emissions reductions at facilities geographically closer to Mingo. IEPA's Response Letter to FLM at 7-8. For all of these reasons, we reject Petitioners' arguments and deny review of IEPA's decision not to concur in the FLM's adverse impact finding.

E. *NEPA Review*

Petitioners note that review of a PSD permit application under 40 C.F.R. § 52.21 must be "coordinated with the broad environmental reviews" under the National Environmental Policy Act, 42 U.S.C. § 4321 ("NEPA") "to the maximum extent feasible and reasonable." Petition at 17-18 (quoting 40 C.F.R. § 52.21(s)). Petitioners imply that this obligation cannot be delegated to IEPA and they argue that, to satisfy this obligation, EPA must ask "IEPA, [Prairie State], or other federal agencies to identify the federal actions that may trigger other agencies' NEPA

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[132] In a separate Permit condition, the SO_2 limit may be reduced further to 1,350 lb/hour, 24-hour average, pursuant to an optimization plan, which is subject to the qualification that Prairie State may avoid reduction of the limit to this level by demonstrating "unacceptable or unreasonable consequences." Permit at 33, ¶ 2.1.16(a)(ii).

[133] Petitioners also argue that we should review the Permit on the grounds that the 24-hour emission rate is stated as lb/hour, not lb/MMBtu, and that when the boilers are operated below full capacity, the "emissions in terms of lbs/MMBtu could soar" producing "little help for Mingo." Petition at 74. Petitioners' argument, however, must fail on the grounds that Petitioners have not shown by this argument that the amount of pollutants emitted into the atmosphere will increase or that impacts at Mingo will be different than shown through the modeling. Moreover, Petitioners' argument also fails to take into account the Permit's 98% control efficiency limit.

review obligations." Petition at 18. Petitioners argue further that the "obligation to coordinate is mandatory." *Id.* at 19.

Upon consideration, we conclude that review of IEPA's permitting decision based on this issue is not warranted. The delegation of authority to IEPA to perform the PSD permitting functions under 40 C.F.R. § 52.21 was effective on April 7, 1980, and does not provide an exception for the obligation set forth in section 52.21(s); the delegation was a "full delegation." *Prevention of Significant Deterioration; Delegation of Authority to State Agencies*, 46 Fed. Reg. 9580, 9582 (Jan. 29, 1981). Accordingly, IEPA is required to "coordinate" PSD review with any NEPA review by a federal Agency "to the maximum extent feasible and reasonable," if the proposed source or modification "is subject to action by a Federal Agency which might necessitate preparation of an environmental impact statement." 40 C.F.R. § 52.21(s). As we explained in *Hadson Power*,

> Under the plain language of this regulation, coordination is all that is required of the PSD permitting authority, and only to the extent feasible and reasonable. As used in this regulation, "coordinate" is best given its everyday meaning, namely to harmonize or to act together in a concerted way. In our view, then, this regulation does not require a State to refrain from issuing a PSD permit until the NEPA review process is complete.

In re Hadson Power 14-Buena Vista, 4 E.A.D. 258, 299 (EAB 1992). Our analysis in *Hadson Power* makes clear that a state permitting agency exercising delegated authority has sufficiently coordinated when the agency concludes that any NEPA review does not pertain to the portions of the facility subject to PSD regulation. *Id.* at 299-300 (finding that the applicant's decision to abandon the "coal conveyance" method subject to NEPA review "eliminated any need to await completion" of the NEPA review as that conveyance method was "[t]he only portion of the NEPA review relevant to this permit proceeding").

In the present case, the record does not show that there is any NEPA review pending or that any potential NEPA reviews cover any aspect of the proposed Facility that is subject to PSD regulation. Petitioners have not shown that any of the speculative federal agency actions they identify might necessitate a NEPA review and, more importantly, Petitioners have not alleged that any such speculative review would be relevant to the PSD issues in this case. *Hadson Power*, 4 E.A.D. at 299. Accordingly, we cannot find on this record any deficiency that would warrant a grant of review concerning IEPA's compliance with its duty to coordinate the PSD review with any NEPA review.

F. *Environmental Justice*

Petitioners request that we grant review of IEPA's permitting decision on the grounds that IEPA allegedly "violated their environmental justice obligations in three ways" – by failing to conduct an environmental justice assessment; by failing to ensure the meaningful public participation of environmental justice communities in and around East St. Louis; and by using a mapping tool that Petitioners contend is illogical in this situation. Petition at 43-45. More specifically, Petitioners argue that they identified one environmental justice population, subsistence anglers in East St. Louis, as being at risk from mercury emissions and Petitioners argue that IEPA did not respond to this issue. Petitioners Reply at 26. Petitioners also argue that "the duties under [Executive Order] 12898 are directed at USEPA and that while IEPA may assist in preparing such an analysis as it deems appropriate, final responsibility for compliance rests with USEPA, including this Board." *Id.*

Petitioners' arguments, however, are unpersuasive. Executive Order 12898 instructs federal agencies to address, as appropriate, "disproportionately high and adverse human health or environmental effects of [their] programs, policies, and activities on minority and low-income populations * * * ." *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, Exec. Order 12,898, 59 Fed. Reg. 7629 (Feb. 16, 1994). We have held that environmental justice issues must be considered in connection with the issuance of PSD permits by both the Regions and states acting under delegated authority. *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 174-75 (EAB 1999) (remand to delegated state permitting authority to supplement the record with the environmental justice analysis); *In re AES Puerto Rico, L.P.*, 8 E.A.D. 324, 351 (EAB 1999), *aff'd sub nom Sur Contra La Contaminacion v. EPA*, 202 F.3d 443 (1st Cir. 2000); *In re EcoEléctrica, L.P.*, 7 E.A.D. 56, 67-69 (EAB 1997).

In the present case, IEPA responded to the comments from the public regarding environmental justice issues and specifically with respect to low-income communities in East St. Louis. *See* Response to Comments at 161-163; Memorandum from Chris Pressnall, Assistant Counsel, IEPA, to File (Apr. 20, 2005). IEPA found that the "[l]ow-income communities are actually located many miles from the plant, at distances with which other, more affluent communities are interspersed." Response to Comments at 161. Based on this, IEPA concluded that "residents of low-income communities would not experience air quality impacts from the plant that are different than those experienced by residents of more affluent communities." *Id.* IEPA also stated that "disproportionate impacts on [environmental justice] communities have not been identified from the proposed plant." *Id.* at 162. More specifically, IEPA explained:

> The Illinois EPA has evaluated demographic data from USEPA's EJ Geographic Assessment Tool for the area

> surrounding the proposed plant, including the community of Marissa. Th[ese] data show[] that this area is not a minority or low-income area and has levels of minority population and poverty that are the same or lower than the statewide averages. The data from counties located within the significant impact area identified and modeled for the proposed plant also shows that the plant does not raise issues for [environmental justice]. Of the six counties located in the significant impact area, only St. Clair County has a minority population above the statewide average. St. Clair County is also the only county with a poverty level greater than the statewide average. There is no evidence that residents of St. Clair County would bear a disproportionately high and adverse impact compared to the residents in the five other counties in the impact area. Moreover, the significant impact area, i.e., the area as identified in the air quality modeling conducted by the plant within which more than a trivial impact is predicted, does not cover the entirety of these six counties. East St. Louis, accounting for a large proportion of St. Clair[] County's minority population, is located outside of [the] significant impact area. As related to the USEPA's guidance for [environmental justice], this means that the proposed plant's emissions do not pose a concern for disproportionate impact because such impacts, if any, are so small as to be trivial.

Response to Comments at 162.

As is evident from these quoted passages, IEPA did specifically consider the environmental justice issues raised during the public comment period, including the comments regarding whether the proposed Facility would have a disproportionate impact on residents of East St. Louis. Petitioners' arguments on appeal fail to show clear error in either IEPA's factual findings or the conclusions IEPA has drawn from those facts. In particular, Petitioners' reference to subsistence anglers in East St. Louis fails to demonstrate clear error in IEPA's specific finding that East St. Louis falls outside of the proposed Facility's significant impact area (which IEPA explained includes all areas where the modeled impact is greater than trivial) and IEPA's specific finding that the "proposed plant's emissions do not pose a concern for disproportionate impact because such impacts, if any, are so small as to be trivial." *Id.* In short, Petitioners have failed to show by reference to record evidence that there is a potential non-trivial impact that would have a disproportionately high and adverse effect on an environmental justice population. In addition, Petitioners have not pointed to any Agency guidance as showing that IEPA's environmental justice analysis was not in accordance with U.S. EPA pol-

icy. Under circumstances such as these, where IEPA found that any impacts to the area where the identified environmental justice population resides would at most be "trivial" and Petitioners have not shown any error in that conclusion, we are not persuaded that IEPA was required to provide greater opportunity for public participation to that population than was provided here. For these reasons we conclude that Petitioners have not shown clear error in IEPA's analysis[134] and therefore we deny Petitioners' request that we grant review of IEPA's environmental justice analysis.

III. *CONCLUSION*

For the reasons set forth above, we deny the petition for review filed by the American Bottom Conservancy, American Lung Association of Metropolitan Chicago, Clean Air Task Force, Health and Environmental Justice-St. Louis, Lake County Conservation Alliance, Sierra Club and Valley Watch. In accordance with 40 C.F.R. § 124.19(f)(2), the Regional Administrator of Region 5, or appropriate delegate, shall promptly publish in the *Federal Register* a notice of this final agency action.

So ordered.

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[134] We decline to base a grant of review solely on the question whether the U.S. EPA or the delegated state permitting authority is principally, or finally, responsible for the environmental justice analysis where, as is the case here, an analysis was conducted and the Petitioners have failed to show clear error in that analysis' conclusion that any impact would be trivial. The Petitioners' inability to show clear error in the "so small as to be trivial" finding provides no basis for inquiry as to whether this permitting decision would violate the Executive Order's requirement that federal agencies address "disproportionately high and adverse human health or environmental effects of [their] programs, policies, and activities on minority and low-income populations." *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, Exec. Order 12,898, 59 Fed. Reg. 7629 (Feb. 16, 1994).