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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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ENVIR. APPEALS BOARD

IN THE MATTER OF:  
CITY OF SPRINGFIELD

) APPEAL NUMBER: \_\_\_\_\_  
) APPLICATION NUMBER: 04110050  
) PSD PERMIT NUMBER: 16712OAAO

**PETITION FOR REVIEW**

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## INTRODUCTION

Pursuant to 40 C.F.R. § 124.19(a), the Sierra Club (“Petitioner”), petitions for review of the conditions of the Prevention of Significant Deterioration Permit No. 16712OAAO (Application No. 04110050) which was issued to the City of Springfield, Illinois, on August 10, 2006.<sup>1</sup> The State of Illinois is authorized to administer the PSD permit program pursuant to a delegation of authority by the United States Environmental Protection Agency (“USEPA”). The Permit authorizes the City to construct a new coal-fired power plant (“Dallman 4”) and associated emission units in Sangamon County, Illinois. Petitioner contends that the Illinois Environmental Protection Agency (“IEPA”) did not comply with various procedural protections and that certain permit conditions are based on clearly erroneous findings of fact and conclusions of law, and involves important matters of policy or the exercise of discretion.

### THRESHOLD PROCEDURAL REQUIREMENTS

Petitioners satisfy the threshold requirements for filing a petition for review under Part 124:

1. Petitioners have standing to petition for review of the permit decision because they participated in the public comment period on the permit. 40 CFR § 124.19(a). *See* comments filed by Keith Harley on behalf of the Sierra Club and supplemental comments filed by Bruce Nilles. Sierra Club Exhibits 1 & 2 (hereinafter “SC Ex.”). Petitioners’ representatives also commented on the draft permit at the hearing held on March 22, 2006 at Springfield Southeast High School. *See* Hearing Transcript, SC Ex. 6.

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<sup>1</sup> In the interests of saving paper and not inundating the Board with duplicate exhibits, the Sierra Club has not attached a copy of the permit. Mr. Maudling included a copy of that document with his September 8, 2006 appeal.

2. The issues raised by Petitioners below were either raised with IEPA during the public comment period or are new issues, not previously subjected to public review. Consequently, the Board has jurisdiction to hear Petitioners' timely request for review.

### **STATEMENT OF FACTS**

The City filed its application for this permit on November 18, 2004. The City proposes to construct a new sub-critical pulverized coal-fired boiler to power a steam turbine generator, associated pollution control equipment, auxiliary equipment, a cooling tower, and material handling equipment. The new boiler will have a nominal power output of 250 MW. IEPA issued a draft PSD permit on or about February 4, 2006. A public hearing was held on March 22, 2006. The comment period closed on May 22, 2006. The final PSD permit was issued on August 10, 2006. That Permit includes Attachments 5.1 through 5.6 that incorporated the terms of a settlement agreement between the City and the Sierra Club. By the terms of that agreement, and the terms of the Permit Condition 1.6, "[i]f the issuance of this permit is appealed pursuant to federal law, under 40 CFR Part 124 ... the above requirements [in Attachments 5.1 through 5.6] ... shall not be effective." On September 8, 2006, David Maulding, a developer in the City of Springfield, filed an appeal of the Permit. In the absence of an agreement with the City to lower emission limits on Dallman units 1-3 and 4, and investments in clean energy to offset the new air pollution associated with Dallman 4, Sierra Club now petitions for review of the Permit.

### **ARGUMENT**

The Clean Air Act and the PSD regulations require that major stationary sources employ the "best available control technology," or BACT, to minimize emissions of regulated pollutants. 42 U.S.C. § 7475(a)(4); 40 CFR § 52.21(j)(2). Many state

permitting agencies, including IEPA, have adopted the top-down method for determining BACT.

That process is described in the NSR Manual as follows:

The top-down process provides that all available control technologies must 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. 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 in 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 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 step 4 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 emission limit for a specific pollutant that is appropriate for the selected control method. *Id.* at B.53

Many of the issues raised in this petition relate to a failure of IEPA to conduct a reasoned top-down BACT determination and explain how it reached its conclusions. This appears to be a chronic problem facing the agency. In a June 15, 2006 report to the IEPA about the state's NSR/PSD program, EPA wrote under "areas for improvement," that "IEPA has stated that it needs to improve the level of information made available to the public on the Best Available Control Technology (BACT) determination found in the preliminary determination document for a PSD permit." Letter from Cheryl Newton,

Region 5, Air and Radiation Division, Acting Director to Laurel Kroack, IEPA, Division of Air Pollution Control, Chief (June 15, 2006).<sup>2</sup>

### **I. The Permit Does Not Require BACT for Sulfuric Acid Mist**

The IEPA failed to conduct a comprehensive top-down BACT determination for sulfuric acid mist (SAM), a regulated PSD pollutant. The Permit establishes a sulfuric acid mist (SAM) BACT limit of 0.0050 lb/MMBtu on a three-hour block average. Permit ¶ 2.1.2.b.iii. The agency's "BACT" determination states that a wet electrostatic precipitator (WESP) is "the established control technique for emissions of sulfuric acid mist ...." Project Summary, SC Ex.3, p.12. The agency set the SAM BACT limit based on BACT limits for "other recently permitted new coal-fired utility boilers."<sup>3</sup>

There are at least four serious errors in the IEPA's BACT determination for SAM. First, the agency failed to consider the use of low-sulfur coal in step 1. Second, the agency failed to consider the use of a wet scrubber in step 1. Third, the agency failed to identify a control efficiency for the WESP in step 3. Fourth, the agency, again in step 1, failed to consider a combination of low-sulfur coal, a wet scrubber and a WESP in its BACT determination.

IEPA also did not require any supporting calculations for the proposed SAM limit. The only apparent basis for the SAM limit is several other recently-permitted facilities with similar permit limits. Crucial information, such as the control efficiency

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<sup>2</sup> Available at <http://yosemite.epa.gov/r5/ardcorre.nsf/b44996b206844887862565cc0065d794/2152489f3f972b12862571a80074b195!OpenDocument> (last visited 9.12.06).

<sup>3</sup> In its response to comments IEPA points to four permits for its SAM analysis, including Elm Road, Longview, Trimble County Unit 2 and Weston 4. RTC #88 p.40. IEPA then makes an erroneous statement that "these projects also use a bituminous, high sulfur coal, generally similar to the coal supply which Dallman 4 is designed." *Id.* The Weston 4 permit requires the exclusive use of low-sulfur coal and the permit for Trimble Unit 2 is currently under administrative appeal because it has been permitted to burn up to three different coal blends, including low-sulfur coal.

of the scrubber and the WESP, the type of scrubber, and the type of air heater still has not been disclosed. IEPA does offer a general description about the use of a WESP for SAM control, but no particulars supporting the source-specific limit proposed by the applicant. As part of its comments, Petitioner calculated that the SAM limit should be approximately 0.0024 lb/MMBtu assuming the use of high-sulfur coal, a SO<sub>2</sub> to SO<sub>3</sub> conversion ratio across the SCR (based on the vendor guarantee) and the control efficiencies of the scrubber and the WESP vendor guarantee we could locate in the City's files. Sierra Club Comments, SC Ex. 1 p.20. IEPA responded that Petitioner's calculation "does not constitute a sound basis upon which to set a BACT limit," but then fails to explain how the calculation should have been performed. Response to Comments #95, p.44. On the basis of this incomplete record and the agency's unwillingness to offer a rational explanation for how it derived its proposed 0.005 lb/MMBtu limit, the permit should be remanded.

#### **A. Low-Sulfur Coal**

IEPA did not consider low-sulfur coal in step 1 of its BACT analysis for SAM. The agency concedes that it rejected from its BACT determination lower limits from other coal plants that burned lower-sulfur coal. Response to Comments #95, p.43 ("The limits for these sources can be distinguished from the BACT limits for Dallman 4 for a number of reasons, including the sulfur content of the coal supply to the boiler, which is a relevant factor and was considered. It is commonly recognized that the sulfur content of the coal supply to a boiler is a factor that affects the sulfuric acid mist emissions from the boiler, a fact that is indeed acknowledged by this comment."). However, even though it "is commonly recognized" that the more sulfur in the coal the higher the SAM emissions, neither IEPA nor the City have offered a reasoned explanation why the proposed coal

plant could not use exclusively low-sulfur coal or blend in a portion of such coal as one strategy to reduce overall SAM emissions. *In re Prairie State Generating Station*, slip op. at 36 n. 31 (EAB, August 24, 2006) (“We reject Prairie State’s suggestion that ‘the coal inherently defines the design of the plant.’ ... 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.’”).

Clean fuels must be considered according to the plain language of the definition of BACT and previous Board decisions:

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

*In re Inter-Power of New York*, 5 E.A.D. 130, 134, (EAB 1994) (internal citations omitted). In fact, the Board could not have been more clear that a “BACT analysis should include consideration of cleaner forms of the fuel proposed by the source.” *In re: Old Dominion Electric Cooperative*, 3 E.A.D. at 794, n. 39 (EAB 1992). Clean fuels must be evaluated for all projects, including the proposed Dallman 4 coal plant. The failure of IEPA to consider low-sulfur coal for the City’s proposed coal-fired power plant is a clear error.

The obligation to demonstrate that low-sulfur coal is not cost-effective rests with the City:

[T]he applicant should demonstrate to the satisfaction of the permitting agency that costs of pollutant removal for the control alternative are disproportionately high when compared to the cost of control for that particular pollutant and source

in recent BACT determinations. If the circumstances are adequately documented and explained in the application and are acceptable to the reviewing agency they may provide a basis for eliminating the control alternatives.

NSR Manual B.32 (emphasis added). Hibbing Taconite Company, 2 E.A.D. at 842 (when a clean fuel is in use elsewhere, it is presumed cost-effective absent detailed consideration of objective economic data in the record); see also NSR Manual at B.29. (“In the absence of unusual circumstances the presumption is that sources within the same category are similar in nature and that cost and other impacts that have been born by one source of a given source category may be borne by another source of the same source category.”). Neither IEPA nor the City has “adequately documented and explained” why low-sulfur coal is not cost-effective for the control of SAM. NSR Manual at B.32.

IEPA’s only “explanation” for rejecting the use of low-sulfur coal is an “if, then” statement in its response to comments that has no grounding in reality. The agency’s “cost analysis” consists of a statement that if the cost of using low-sulfur coal were an additional \$1,000,000 per year, the cost to eliminate the projected 53 tons of SAM emissions would be in excess of \$20,000 per ton of sulfuric acid mist controlled. Response to Comments #89, p.41. There are no facts whatsoever to support IEPA’s estimate that the cost of burning low-sulfur coal would increase overall costs by \$1 million annually. The public cannot be expected to assess the reasonableness of IEPA’s BACT determination (or have any faith in its conclusions) if it does not explain how it reached its conclusions and tether its off-the-cuff cost estimates to reality.

Contrary to IEPA’s unsubstantiated cost estimates, the Department of Energy’s website indicates that low-sulfur coal is cheaper than high-sulfur coal. The DOE’s Energy Information Agency reports that in 2004, the cost of Illinois high-sulfur coal was

\$25.72 per short ton. Low-sulfur Wyoming coal during this same time period was trading at \$7.12 per short ton.<sup>4</sup> Similarly, EIA's tracking of coal spot prices between January 2003 and August 2006 indicates that low-sulfur coal is significantly cheaper than high-sulfur Illinois coal.<sup>5</sup> Moreover, IEPA's bald assertion that Illinois coal is cheaper is refuted by the ongoing trend of the state's existing power plants to switch to low-sulfur coal, including facilities that are installing scrubbers, such as the Baldwin power plant. The failure of IEPA or the City to offer a reasoned explanation for not requiring the use of cleaner low-sulfur fuel in its top-down BACT analysis is clear error.

#### **B. IEPA Failed To Consider the Scrubber**

IEPA also failed to consider the use of a wet scrubber in step 1 of the top-down BACT determination for the Dallman 4 SAM emissions. During the Prairie State permit proceeding the agency combined the BACT analysis for SO<sub>2</sub> and SAM for the following reasons:

[B]oth SO<sub>2</sub> and sulfuric acid mist have the same origin, i.e., sulfur contained in the coal supply to the boilers, which is oxidized during combustion. *Control measures that are effective in controlling SO<sub>2</sub> emissions also control sulfuric acid mist emissions.* SO<sub>2</sub> and sulfuric acid mist differ as sulfuric acid mist reflects the further oxidation of a smaller amount of the SO<sub>2</sub> that is formed during combustion, from SO<sub>2</sub> and SO<sub>3</sub>, a process that continues as long as SO<sub>2</sub> is present in the flue gas (and then continues in the atmosphere). Sulfuric acid mist is formed in the boiler when the SO<sub>3</sub> combines with the moisture. Accordingly, the 'basic' control of these pollutants can be looked at in coordinated fashion, in terms of SO<sub>2</sub>, followed by consideration of whether further control beyond those for SO<sub>2</sub> are appropriate specifically for emissions of sulfuric acid mist.

Prairie State Response to Comments #102, p.48 (emphasis added).

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<sup>4</sup> See <http://www.eia.doe.gov/cneaf/coal/page/acr/table31.pdf> (last visited 9.11.06).

<sup>5</sup> <http://www.eia.doe.gov/cneaf/coal/page/coalnews/coalmar.html#spot> (See Average Weekly Coal Commodity Spot Prices Week Ended September 1, 2006). The price on this graph indicates that the price of Illinois Basin coal has hovered around \$30/ton for the past two years, while the price of Wyoming coal is around \$10-20/ton (last visited 9.11.06).

Despite the obvious link between SO<sub>2</sub> emissions and SAM emissions, IEPA failed to consider the effect of the wet scrubber on SAM emissions. In response to a comment concerning the lack of any analysis for the SAM BACT rate IEPA stated that “in general, between 0.7 and 1.6 percent of the uncontrolled SO<sub>2</sub> from a boiler burning bituminous coal would normally be converted to SO<sub>3</sub>.” Response to Comments #96, p.44. “Furthermore, the BACT limit for sulfuric acid mist, 0.005 lb/million Btu requires a minimum of 96 to 97 percent overall control of sulfuric acid mist emissions.” *Id.* This statement highlights the gap in IEPA’s analysis: IEPA’s SAM BACT calculation presumes uncontrolled SO<sub>2</sub> from the boiler, *i.e.* no SO<sub>2</sub> removal by the scrubber.

IEPA has not imposed an SO<sub>2</sub> BACT limit on Dallman 4 because of netting. Consequently, the Permit does not require continuous operation of the scrubber. The limited SO<sub>2</sub> requirements are the NSPS standards (1.20 lb/MMBtu and 90 percent reduction) (Permit Condition 2.1.3) and a thirty day-rolling average of 0.20 lb/MMBtu. Permit Condition 2.1.7.a. These SO<sub>2</sub> limits do not require that the scrubber be operated continuously or close to its maximum removal capabilities.

The effect of the scrubber on SAM emissions can be demonstrated with a simple calculation. According to IEPA the Dallman 4 design coal has a sulfur content of 7.0 lb SO<sub>2</sub> / MMBtu. Response to Comments #96, p.44. Furthermore, IEPA states that when the scrubber is not operating as much as 0.7 to 1.6 percent of the uncontrolled SO<sub>2</sub> emissions are converted to SAM. *Id.* Assuming conservatively that the Dallman wet scrubber can achieve a rolling average of 98 percent SO<sub>2</sub> control efficiency (as required for Prairie State) and the Dallman 4 design coal, the SO<sub>2</sub> emissions with the scrubber

operating would average around 0.14 lb SO<sub>2</sub>/MMBtu.<sup>6</sup> Obviously then, when the scrubber is operating the available SO<sub>2</sub> that can be converted to SAM is significantly less than when the scrubber is not operating. In setting a BACT limit for SAM, the IEPA should have required that the scrubber be optimized at all times, *i.e.* consider in its BACT analysis for SAM an SO<sub>2</sub> rate and considered a control efficiency for the scrubber. The failure to do so is clear error.

Moreover, as part of the City/Sierra Club Agreement the City and its engineers agreed to an SO<sub>2</sub> control efficiency of 99 percent and a SAM limit of 0.004 lb/MMBtu on a three-hour block average. *See* Permit Attachment 5.6. If the City is willing to accept such a SAM limit for high-sulfur coal and the threat of significant non-compliance penalties in its PSD permit, this limit must, at a minimum, constitute the presumptive SAM BACT limit.

**C. BACT Requires IEPA Consider A Range of Control Efficiencies for the WESP**

The definition of BACT mandates that IEPA consider a range of control efficiencies for the WESP. Step 3 of the top-down process specifically requires IEPA to present the “control efficiencies (percent pollutant removed),” and “expected emission rate (tons per year, pounds per hour) for each control technology. NSR Manual at B.6. BACT limits must be established based on the maximum degree of reduction from the best control options for the source. The “maximum” degree of pollution control for WESP (as with scrubbers and other end-of-pipe controls) can vary enormously depending on the control efficiency of the pollution control device. IEPA regularly considers control efficiencies for other pollution control equipment in combination with emission

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<sup>6</sup> This calculation assumes, conservatively, there is no sulfur loss from the raw coal to the scrubber.

rates. *See e.g.* Prairie State Permit ¶ 2.1.2(b)(ii) (establishing an SO<sub>2</sub> rate of 0.182 lb/MMBtu and a 98 percent control efficiency for the scrubber). It was plain error for IEPA to not consider a range of control efficiencies for the WESP.

**D. IEPA Did Not Consider Combination of Controls.**

In addition to failing to consider the use of low-sulfur coal and add-on controls (scrubber and WESP control efficiency ranges), IEPA failed in step 1 to consider a combination of some or all of these control options. NSR Manual at B.10 (“Potentially applicable control alternatives can be categorized in three ways [including] ... [c]ombinations of inherently lower emitting processes and add-on controls.”). As described above, the combination of low-sulfur coal, a wet scrubber, and an optimized WESP could achieve a much lower SAM rate than proposed in this permit. After identifying such a combination(s) in step 1, if IEPA does not require a combination of low-sulfur coal and add-on controls it must explain in step 2 why a combination is technically infeasible or not the most effective control option under step 3. The failure to do so prior to issuing the Dallman 4 permit is clear and reversible error.

**II. The Permit Does Not Require BACT for Total PM**

The permit establishes a total PM BACT limit of 0.035 lb/MMBtu on a three-hour block average. Permit ¶ 2.1.2.b.i.B, p. 11. The Sierra Club submitted extensive comments based on other permits and emission data from other coal plants showcasing why a lower total PM limit was achievable and required as BACT. Indeed, as a part of the City/Sierra Club Agreement the City agreed to a significantly lower limit of 0.02 lb/MMBtu on a three-hour block average. The City agreed to this limit because it concluded this lower limit was readily achievable. If a sophisticated permit applicant

with a sophisticated multinational engineering firm is willing to accept a lower limit, the State cannot issue a permit with a higher limit.

### **III. The Permit Does Not Require BACT for Filterable PM**

The Permit establishes a filterable PM limit of 0.012 lb/MMBtu based on a three-hour block average. Permit ¶ 2.1.2.b.i.A. This is the same PM limit that IEPA set for the Prairie State facility, a permit issued more than eighteen months earlier. The Sierra Club submitted extensive comments based on other permits and emission data for other coal plants showcasing why a lower limit is readily achievable. As part of the City/Sierra Club agreement the City agreed to lower its filterable PM limit to 0.010 lb/MMBtu on a three-block average. Permit Attachment 5.6, ¶ 1.c. The agreement further provided that should the City not be able to meet this limit it was free to petition IEPA to increase the limit to 0.012 lb/MMBtu. *Id.* Again, when a sophisticated permit applicant states it can meet a lower permit limit, the permitting agency must accept that limit absent a compelling and well documented reason.

### **IV. The Permit Fails To Set A Visible Emission Limit**

The permit contains an opacity limit of 20 percent based on a six-minute average, except for one six-minute period per hour of not more than twenty-seven percent opacity. Permit ¶ 2.1.3.a.i.B, p. 15. This emissions limit is based on the NSPS standard in 40 CFR 60.42a(1), and not on BACT level control. The permit fails to contain a visible emission limit for regulated pollutants (i.e., PM and SAM)<sup>7</sup> that is based on the maximum degree of reduction achievable with the best pollution control option for

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<sup>7</sup> A visible emission standard is a limit on “light scattering particles,” which include both fine particulate matter (“PM”) and sulfuric acid mist (“SAM”) aerosols. Both PM and SAM are regulated under PSD and, therefore, a complete PSD permit must contain a BACT limit which includes a visible emission limit based on BACT for PM and SAM.

Dallman 4. 40 CFR § 52.21(b)(12). The Permit's failure to include a visible emission BACT limit is therefore deficient.

IEPA does not dispute that a portion of PM and SAM emissions are emitted from power plant smokestacks as "visible emissions." The only dispute is whether 40 CFR 52.21 requires BACT limits for PM and SAM to include visible emission standards in addition to emission rate limits. The plain language of the rule requires that they do.

A PSD permit requires BACT for all regulated pollutants. *Id.* BACT is defined as "an emissions limitation (including a visible emission standard) . . ." 40 CFR 52.21(b)(12); *see also* 42 U.S.C. § 7479(3). Although a BACT limit for PM or SAM typically includes an emission rate limit (i.e., pounds per hour or pounds per million Btu heat input), a BACT limit must nevertheless also "includ[e] a visible emission standard." 40 CFR 52.21(b)(12). Other recent coal plant permits include visible emission as part of the BACT limits for those facilities. For example, the Springerville facility in Arizona has a BACT limit of 15 percent opacity, and the Mid-America facility in Council Bluffs, Iowa, has an opacity limit of 5 percent.<sup>8</sup> Similarly, the Wisconsin Department of Natural Resources set a 10 percent BACT opacity limit for the Fort Howard (Fort James) Paper Company's 500 MW coal-fired boiler.

The IEPA nonetheless refused to include a visible emission limit in the Dallman 4 BACT limits for PM and SAM. The agency argues "[s]ince opacity is not a pollutant, there is not a statutory obligation to set an opacity limit." *Id.* The agency dismisses the regulation's reference to visible emissions as nothing more than "a clarifying action on USEPA's part indicating that it is acceptable for a permitting agency to set opacity limits

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<sup>8</sup> *See* Iowa DNR Permit No. 03-A-425-P, §10a, available at [http://aq48.dnraq.state.ia.us:8080/psd/7801026/PSD\\_PN\\_02-258/03-A-425-P-Final.pdf](http://aq48.dnraq.state.ia.us:8080/psd/7801026/PSD_PN_02-258/03-A-425-P-Final.pdf) (last visited September 12, 2006).

as BACT, even though it is not required.” Response to Comments #86, p.39. This is in error. There is no provision in the regulation that makes a visible emission limit optional, or conditions its requirement on the lack of an emission rate limit. *Nat. Ass’n of Mfrs. v. Dept. of Labor*, 159 F.3d 597, 600 (D.C. Cir. 1998) (“There is, of course, no such ‘except’ clause in the statute, and we are without authority to insert one”).

IEPA also asserts that even if it were required to set a BACT limit that included a visible emission limit the information Petitioner provided about other facilities with lower opacity limits does not support setting a 5 percent opacity limit for Dallman 4. Response to Comment #87, p.40. The agency’s response, however, does not address whether a visible emission limit lower than 20 percent, but higher than 5 percent, is achievable for the pollution control train proposed at Dallman 4. For example, IEPA does not explain why the Springerville limit of 15 percent or the Fort Howard 10 percent opacity limit is not achievable for Dallman 4. This alone is reversible error. It also appears that IEPA never asked the City whether it could achieve a lower limit. In the City/Sierra Club Agreement the City agreed to a 10 percent opacity limit. *See* Permit Attachment 5.6, ¶ 1.e, p. 4-13 (lowers opacity limit to 10 percent). The City’s agreement to this lower limit provides incontrovertible evidence that an opacity limit lower than 20 percent is cost-effective and achievable.

This is also a significant compliance policy issue that the Board should review. IEPA does not dispute that an opacity limit would significantly strengthen the permit, including its compliance provisions. Opacity is commonly measured through continuous opacity monitoring systems. In this case, the Dallman 4 permit requires the permittee to “install, certify, operate, calibrate and maintain continuous monitoring systems on the

affected boiler for opacity ....” Permit ¶ 2.1.9-1.a.i. The permit does not require continuous monitoring for SAM and filterable PM. Permit ¶ 2.1.8b.i.

The Board should reject IEPA’s efforts to read discretion into the PSD regulations where none exists. Other states are including BACT limits for PM and SAM emissions that include visible emission (opacity) limits. IEPA has set visible emission BACT limits for other emission units associated with Dallman 4, including the bulk handling and storage facilities. Permit ¶ 2.2, p.32. Moreover, even if IEPA had discretion to not set a BACT opacity limit, it is arbitrary and capricious to not include a visible emission limit when it is undisputed that such a limit would provide an important compliance safeguard year-round, not just during the infrequent SAM and PM stack tests.

**V. IEPA Failed To Require BACT for PM Emissions From Bulk Handling Operations**

The Permit sets a PM BACT limit for bulk material handling operations, such as coal and limestone storage facilities, at 0.01 grams/dry standard cubic feet. Permit ¶ 2.2.2.b.ii. This does not represent BACT. Petitioner commented that other states had set lower limits, including 0.004 g/dscf for the Elm Road (WI) coal and limestone collectors; 0.005 g/dscf for coal and limestone collectors at the Mid-American (IA) facility. SC Ex. 1 at 27-28. Petitioner also commented that IEPA previously had set a significantly lower PM BACT limit for the identical type of facilities – bulk handling operations – at the proposed Indeck-Elwood coal plant. That permit sets a PM limit for the bulk material handling operations of 0.005 grains/dry standard cubic feet, *i.e.* a limit that is 50 percent lower than IEPA is requiring for Dallman 4. *See* Indeck-Elwood PSD Permit, SC Ex. 4, ¶ 2.1, p.27.

IEPA responded that other states have not been consistent in their approach to all bulk handling operations. For example, IEPA argues, while the Elm Road and Mid-American facility permits have lower limits for coal and limestone handling operations they had less stringent limits for other bulk handling operations, such as ash handling facilities or lime silos. Response to Comments #105, p.48. This response, of course, is not responsive to Petitioner's comments that BACT is set emission unit by emission unit. IEPA has not provided "a clear explanation as to why the top control option [for the coal and limestone handling operations] should not be selected as BACT." *In re Prairie State Generating Station*, PSD Appeal No. 05-05, slip op. at 18 (EAB, August 24, 2006); NSR Manual at B.26.

Further, IEPA seeks to dismiss the Indeck-Elwood PM BACT provisions for the following reasons:

[T]he circumstances of that plant are significantly different from those of the proposed project. The Indeck-Elwood plant is located on a relatively small piece of property, immediately adjacent to the Midewin National Tallgrass Prairie and a rail-to-truck intermodal center at which new cars and light-duty trucks are transferred from railcars to transport trucks for distribution throughout the greater Chicago area. Because of the presence of these facilities next to the proposed Indeck-Elwood plant and general concerns expressed by these facilities about windblown dust, Indeck committed to control measures that it did, as reflected in the permit. These circumstances are not present for the proposed project.

Response to Comments #105, p.48-49. Again, this long explanation is not a legitimate step 3 energy, environmental or economic explanation for why the Indeck material handling limits should not also be selected as BACT for Dallman 4. Dallman 4 would be located within the Springfield city limits and similarly located on a small piece of property. Once a lower limit has been set in another permit, IEPA must provide a

reasoned justification for not requiring the same level of protection for Springfield residents in this Permit. The Board spoke to this issue in its *Prairie State* ruling:

We ... reject Prairie State's argument that 'there is not such thing as a presumptive BACT.' ... 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 source-specific factors or other relevant information that provides a technical, economic, energy or environmental justification to do otherwise.' NSR Manual at B.24 (emphasis added). ... The applicant's burden to rebut the presumption in favor of applying the most stringent available control is longstanding.

*Prairie State* slip op. at 102, n.81 (internal citations omitted). The Board should remand the permit, require IEPA to conduct a top-down BACT determination for each of the material handling emission units, and set the PM BACT limits at a level no less stringent than the limits IEPA required previously in the Indeck-Elwood PSD permit unless the City meets its "burden to rebut the presumption in favor of applying the most stringent available control ...." *Prairie State*, slip op. at 102, n.81.

**VI. IEPA and USEPA Failed To Complete The ESA Consultation and Include The ESA Analysis in the Public Record In a Timely Manner That Afforded the Public a Review and Comment Opportunity.**

On March 17, 2006, as part of the Indeck-Elwood appeal (PSD Appeal 03-04) that is currently before the Board, the EPA Office of Air and Radiation filed a brief stating: "EPA's view is that section 7(a)(2) of the ESA applies to issuance of federal PSD permits under the CAA." *OAR Brief 5*. In this case EPA Region 5 did conduct an ESA consultation, but did not complete the analysis or make available to the public the ESA consultation documents and analysis until after the public comment period closed on May 22, 2006.

The draft Dallman 4 permit was issued on February 4, 2006, the public hearing held on March 22, 2006 and the comment period was closed on May 22, 2006. Not until three weeks later – on June 13, 2006 – did EPA Region 5 complete its ESA consultation process and then another week later, on June 21, 2006, did USFWS sign off on the consultation. SC Ex. 5.

The CAA and PSD regulations provide strong support for a requirement that an ESA consultation must be completed prior to a draft PSD permit being issued and the public must be afforded the opportunity to review and comment on the analysis and its conclusions. Read together, CAA sections 160(5) and 165(a)(2) and 40 CFR Part 124 provide a framework for ensuring that the public is informed about ESA consultation issues and has the opportunity to comment on the consultation early in the permitting process. For example, section 160(5) states that the purpose of the PSD program is “to assure that any decision to permit increased air pollution in any area to which this section applies is made only *after* careful consideration of all the consequences of such a decision and *after* adequate procedural opportunities for informed public participation in the decision making process.” 42 U.S.C. § 7470(5) (emphasis added). Section 165(a)(2) further requires that a permitting authority provide the public with a public hearing at which it can offer testimony on a wide range of matters:

No major emitting facility . . . may be constructed in any area to which this part applies unless—... (2) ... 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 ....

42 U.S.C. § 7475(a)(2). Read together these statutory provisions require that before a public hearing is held for a proposed PSD source that a permitting agency make available

to the public a reasonable degree of information about the impacts associated with a proposed PSD project, including any significant environmental issues.

The PSD regulations offer further support for completing an ESA consultation before a draft PSD permit issues. For example, 40 CFR § 124.8 requires that a permitting authority prepare a “fact sheet” for “every draft permit which the Director finds is the subject of wide-spread public interest or raises major issues.” Such a fact sheet “shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit.” *Id.* A draft permit must be based on the administrative record and the administrative record must include a fact sheet and all documents cited in the fact sheet. 40 CFR § 124.9(b)(3-4). Accordingly, for each PSD source a permitting agency must prepare a fact sheet that describes the major factual, policy and legal issues associated with the proposed PSD permit and include that fact sheet in the record prior to issuing a draft permit. *Id.* Consequently, when a proposed PSD permitting decision triggers ESA issues, it can readily be handled in the same manner as any other “significant factual, legal, methodological and policy” issue is routinely handled. *Id.* IEPA does not offer a counter view except to state that the ESA does not require preparation of a fact sheet.

Pursuant to the CAA and PSD regulations IEPA did prepare a fact sheet for the Dallman 4 permit prior to issuing the draft permit. The fact sheet did not set forth, however, “the principal facts” and the “significant factual, legal, methodological and policy questions” that should have been considered in preparing the draft permit. § 124.8. IEPA’s fact sheet did not mention the two endangered species at issue in this case or include the Endangered Species Act under the list of “Other Applicable Requirements.” Project Summary, SC Ex. 3, p.3-6. No information about the potentially

affected species or the ESA consultation process is included in the permit application, the draft permit, the fact sheet, the testimony of the IEPA officials at the public hearing and the hearing notice.

IEPA acknowledges that public comments it received on the Dallman 4 draft permit “were helpful to the Illinois EPA in the decision making process.” Response to Comments p.4. The IEPA goes on that “these comments facilitated a number of significant changes to the issued permit, as compared to the draft permit ....” Response to Comments p.4-5. The public could not reasonably be expected to submit any helpful comments about the ESA consultation process in the absence of IEPA informing the public about this issue and providing the analysis it and other agencies conducted before the close of the comment period.

In response to this criticism IEPA sidesteps its obligations in the CAA and the PSD regulations and simply asserts there is no requirement in the ESA to involve the public in the consultation process. Response to Comments #164, p.74. Petitioner is not asserting that the ESA requires disclosure; rather, the obligation to disclose and make available for public comment flows from the CAA and PSD regulation obligations discussed *supra*. IEPA also asserts it is efficient to initiate the consultation process at the same time the draft permit is released. However, IEPA does not explain how this “efficient” process can be harmonized with its public participation obligations.

The CAA guarantees the right of the public to submit comprehensive written or oral testimony regarding the major air-related issues associated with a PSD permit, alternatives thereto, control technology requirements and other appropriate considerations. Section 165(a)(2). In this case that right was denied because basic information about the impacts of air pollution on endangered species, including the

agencies' analysis of these impacts was absent from the public record prior to the close of the comment period. It is axiomatic that there can be no "informed public participation" if information about the potential impacts of a proposed project is not compiled and disclosed until after the close of the public comment period. For these reasons the permit must be remanded. The public must be notified about the ESA consultation requirements and the availability of the ESA materials, and also given a reasonable amount of time to review and submit additional comments.

**VIII. IEPA Committed Legal Error By Asserting That It Lacked Authority to Consider the Need for or Alternatives To Dallman 4**

IEPA received multiple comments urging it to consider whether there was a need for the City's coal plant and alternatives to coal such as renewable energy sources and energy efficiency. Response to Comments #2, #4, #6-24, #27-36 & #64. IEPA responded to these multiple comments with the same mantra it has maintained for at least three years: the agency lacks the authority to consider any of these issues. *See e.g.* IEPA Response to Amended Petition, In re: Indeck-Elwood, PSD Appeal No. 03-04 (Mar. 24, 2004) (In its October 2003 response to comments the "Illinois EPA observed that the PSD regulations did not require a draft PSD permit to address alternatives to a PSD permit proposal and, further, that it was ill advisable for a permit to consider 'an alternative project that was not actually the subject of the permit.'"). At the same time the agency has repeatedly acknowledged the benefits of cleaner energy choices. *See e.g.*, Response to Comments #6 p.8 ("the Illinois EPA also agrees that a greater emphasis should be placed on alternatives to coal-fired generation."); #11, p.10 ("From an emissions perspective, it is preferable to both replace existing units and to improve energy efficiency and use of renewable energy.").

Based on this Board's subsequent August 24<sup>th</sup> *Prairie State* ruling we now know IEPA's long-standing legal position is in error and it does have the authority to consider alternatives to pulverized coal plants. *Prairie State* slip op. at 38 ("Upon consideration, we conclude that ... permit issuers have authority to consider 'alternatives' to the proposed facility ..."); p.42 ("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.'). In its decision the Board noted that a Petitioner bears the burden of raising the issues of alternatives and need as they are linked to air quality.

Petitioner readily admits that it did not in this proceeding submit an extensive alternatives analysis showcasing how a mix of energy efficiency, demand-side management, and renewable energy could minimize (or eliminate altogether) the need for the proposed Dallman 4 power plant and help to reduce overall air emissions. Petitioner did not submit such an analysis because IEPA has for three years maintained it lacked the legal authority to consider such analysis. As the Board noted in *Prairie State*, "a rigorous and robust [alternatives] analysis would be time-consuming and burdensome for the permit issuer." *Id.* The same burden applies to residents and non-profit organizations. Consequently, as long as IEPA maintained that it must ignore such analysis with impunity, no resident or non-profit organization could reasonably be expected to invest the resources to conduct such an analysis.

With the Board's rejection of IEPA's longstanding position in *Prairie State*, Petitioner urges the Board to remand this permit and reopen the public comment period in order for it (and potentially others) to prepare a detailed alternatives analysis.

## **IX. The City Cannot Net Out of BACT Based on Lakeside Closing**

The Permit for Dallman 4 does not require BACT for SO<sub>2</sub> and NO<sub>x</sub> based on a netting calculation that is premised on the City closing its two Lakeside units. The NSR Manual states that “[a] source cannot credit for decrease that it has had to make or will have to make, in order to bring an emissions unit into compliance”. According to the City, the Lakeside units have to be decommissioned because of their age, condition and in order to achieve compliance with new CAA regulations. Under these circumstances it was inappropriate for IEPA to allow the City to take emission credits for the closure of the Lakeside units. Repeatedly before and during the permitting for Dallman 4 City officials have stated that new state and federal regulations requiring reductions in SO<sub>2</sub> and NO<sub>x</sub> (and mercury) emissions have forced the City to consider the future of the Lakeside units: “So we are faced with this decision of what to do with the Lakeside Units, and the logical conclusion that we came to from a technical and economic standpoint, the age of the units, they’re going to be 50 years old soon, was that they retire them.” Hearing Transcript, SC Ex. 6, p.25-26, Statement of William Murray, City Water Light and Power, Regulatory Affairs Manager.

In an August, 2005 letter to the Lake Michigan Air Directors Consortium, Mr. Murray also explained that the City would have to decommission the Lakeside units in order to achieve compliance with near-term regulatory requirements. “Given the age and size of the Lakeside units, it is not economically feasible to add the control equipment necessary to obtain the required emission reductions from CAIR.”<sup>9</sup>

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<sup>9</sup> Available at [http://www.ladco.org/reports/rpo/Regional%20Air%20Quality/Spgfd\\_white\\_paper\\_comments.pdf](http://www.ladco.org/reports/rpo/Regional%20Air%20Quality/Spgfd_white_paper_comments.pdf) at p.6 (last visited 9/12/06).

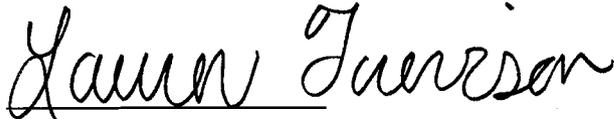
IEPA responded that the City's decision to close the Lakeside units was nevertheless voluntary. Response to Comments #148 & 149, pp. 67-68. The agency goes on to explain that the "Lakeside units do not have to be shut down to comply with Clean Air Act requirements. CWLP has decided that the most economical way to meet the Clean Air Act requirements and its other requirements is to shutdown and replace its Lakeside units." *Id.* #149, p.68.

The Lakeside shutdown was not voluntary. The dictionary definition of "voluntary," is an action "done, made, brought about, undertaken, etc., of one's own accord or by free choice," and "acting or done without compulsion or obligation." Random House College Dictionary 1975. The City's decision to replace the Lakeside units with a multi-million dollar project cannot be described as something a rational person would undertake of "one's own accord" or "without compulsion or obligation." The reason for this investment is, as the City officials have repeatedly stated, that the Lakeside units are at the end of their useful life and the City is on the hook to reduce its emissions under a suite of new air pollution regulations. Retirement under these facts is not optional and it is not voluntary, it is mandatory.

The Board should remand the Permit with instructions to IEPA that it cannot credit the City for the closing of the Lakeside units and must conduct a BACT determination for Dallman 4's SO<sub>2</sub> and NO<sub>x</sub> emissions. The availability of creditable reductions associated with pending air pollution rules is also a significant policy issue that the Board should review. There are several new coal plants proposed in the Midwest that are seeking to net out of BACT for various pollutants by either retiring aging units or upgrading pollution control equipment in anticipation of new pollution reduction requirements, including CAIR, CAMR, BART and SIP requirements.

**CONCLUSION**

For these reasons we respectfully urge the Board to review and remand the  
Dallman 4 PSD permit. Respectfully submitted, this 12th day of September, 2006,



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