McGILLIVRAY
WESTERBERG
& BENDER LLC

September 16, 2010

VIA FEDEX (w/ATTACHMENTS) & EMAIL (w/o ATTACHMENTS)

Lisa Jackson
US EPA Administrator
Ariel Rios Building
1200 Pennsylvania Ave., N.W.
Washington, DC 20460

Re: ***In The Matter Of Proposed Operating Permit For Duke Energy Indiana, Proposed By the Indiana Department of Environmental Management***

Dear Administrator Jackson:

Please find enclosed a Petition Requesting that the Administrator Object to the Issuance of the Proposed Title V Operating Permit for the Edwardsport Generating Station. By copy of this letter, those on the attached service list have been served.

Thank you.

Sincerely,

McGILLIVRAY WESTERBERG & BENDER LLC

Pamela R. McGillivray

Encls.

cc: Service List (Via Fed Ex w/Attachments)

BEFORE THE ADMINISTRATOR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of the Proposed Operating Permit for:

DUKE ENERGY INDIANA to operate the proposed modified source located at 15424 East State Road 358, Edwardsport Indiana, known as the EDWARDSPORT GENERATING STATION

Permit No. T083-27138-00003

Petition No.: V-2010- _____

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SEP 20 2010

Proposed by the Indiana Department of Environmental Management

PETITION REQUESTING THAT THE ADMINISTRATOR OBJECT TO THE ISSUANCE OF THE PROPOSED TITLE V OPERATING PERMIT FOR THE EDWARDSPORT GENERATING STATION

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On behalf of:

SAVE THE VALLEY

SIERRA CLUB

VALLEY WATCH

Date: September 16, 2010

Pursuant to Clean Air Act § 505(b)(2) and 40 CFR § 70.8(d), Valley Watch, Sierra Club and Citizen Action Coalition of Indiana ("Petitioners") hereby petition the Administrator of the United States Environmental Protection Agency ("U.S. EPA") to object to the proposed Title V Operating Permit Renewal for the source located at 15424 East State Road 358, Edwardsport, Indiana ("Permit"), issued by the Indiana Department of Environmental Management ("IDEM" or "Agency") to Duke Energy Indiana ("Duke" or "Permit Applicant"). A true and accurate copy of the Permit is attached hereto as Exhibit 1.

Petitioners provided comments to the Agency on the draft proposed permit leading up to the Permit. A true and accurate copy of comments relevant to this Title V petition is attached as Exhibit 2. This petition is filed within sixty days following the end of U.S. EPA's 45-day review period, as required by Clean Air Act § 505(b)(2). The Administrator must grant or deny this petition within sixty days after it is filed.

If the Administrator determines that this permit does not comply with the requirements of the Clean Air Act ("CAA") or 40 C.F.R. Part 70, she must object to its issuance. *See* 40 C.F.R. § 70.8(c)(1). ("The Administrator will object to the issuance of any permit determined by the Administrator not to be in compliance with applicable requirements or requirements of this part.")

The Permit continues to fail to comply with the applicable CAA requirements and/or the requirements of 40 C.F.R. Part 70 in the following ways. First, the Permit omits the required best available control technology ("BACT") limits and air quality demonstration for fine particulate matter, or $PM_{2.5}$, due to the improper use of coarse

particulate matter, or PM_{10}, as a surrogate for $PM_{2.5}$. Second, Duke and IDEM have failed to demonstrate that emissions of $PM_{2.5}$ will not contribute to violations of the $PM_{2.5}$ NAAQS and, in fact, Petitioners have shown in their comments that the plant will result in such violations of the NAAQS.[1] (Ex. 2, p. 10-11). Moreover, Petitioners have updated their analysis since the EPA issued its March 2010 Guidance, "Modeling Procedures for Demonstrating Compliance with $PM_{2.5}$ NAAQS." (Ex. 3 (Affidavit of Steven Klafka), Attach. B). The results of the updated modeling show that the Edwardsport plant will cause an even greater degree of NAAQS violation for 24-hour $PM_{2.5}$ than previously predicted. (*Id.*)

Therefore, the Permit is not in compliance with the Act and its applicable requirements, and the Administrator must object.

I. BACKGROUND.

A. Fine Particulate Matter and the Clean Air Act.

Fine particulate matter is an extremely harmful pollutant that impacts the lungs and heart, with its heaviest burden falling on vulnerable populations like the elderly and children. According to the U.S. EPA, the $PM_{2.5}$ fraction of particulate matter is distinguishable from the coarse fraction, as the smaller particles pose the largest health risks.[2] $PM_{2.5}$ has been linked to premature death, in addition to aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions

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[1] Petitioners raised additional issues in their comments to IDEM that are not subject to this Petition.

[2] US EPA, "$PM_{2.5}$ NAAQS Implementation," *available at* http://www.epa.gov/ttnnaaqs/pm/pm25_index.html.

for asthma, emergency room visits, absences from school or work, and restricted activity days), changes in lung function and increased respiratory symptoms, and more subtle indicators of cardiovascular health. Clean Air Fine Particle Implementation Rule, 72 Fed. Reg. 20,586, 20,586-20,587 (Apr. 25, 2007). U.S. EPA has also identified lung cancer deaths, infant mortality and development problems (such as low birth weight in children) as possibly linked to $PM_{2.5}$. National Ambient Air Quality Standards for Particulate Matter, Proposed Rule, 71 Fed. Reg. 2620, 2627 (Jan 17, 2006).

Recognizing the unique characteristics of and harms from fine particulate matter, in 1997, U.S. EPA promulgated new annual and 24-hour NAAQS for $PM_{2.5}$. 62 Fed. Reg. 38,652, 38,711 (July 18, 1997); 40 C.F.R. § 50.7. U.S. EPA's bases for regulating PM_{10} and $PM_{2.5}$ separately under distinct NAAQS were, and remain, differences in people's exposure, where the particles lodge in the body ($PM_{2.5}$ penetrates deeper into the lungs), and the health effects associated with each. 71 Fed. Reg. 61,144, 61,147 (Oct. 17, 2006). Promulgation of the $PM_{2.5}$ NAAQS triggered the requirement to apply New Source Review requirements to $PM_{2.5}$. *See* 70 Fed. Reg. 65,984, 66,043 (Nov. 1, 2005) (obligation to implement PSD for $PM_{2.5}$ was triggered on the effective date for the NAAQS); *see also* 73 Fed. Reg. 28321, 28340, (May 16, 2008) ("section 165 of the CAA suggests that PSD requirements become effective for a new NAAQS upon the effective date of the NAAQS."); 52 Fed. Reg. at 24684 (stating that PM_{10} permitting was required after the effective date of the PM_{10} NAAQS); Memorandum from Stephen Page, *Applicability of the Federal Prevention of Significant Deterioration Permit Requirements to New and Revised National Ambient Air Quality Standards* (April 1, 2010) ("EPA generally interprets the

CAA and EPA's PSD permitting program regulations to require that each final PSD permit decision reflect consideration of any NAAQS that is in effect at the time the permitting authority issues a final permit."), *available at* http://www.epa.gov/region07/air/nsr/nsrmemos/psdnaaqs.pdf.

A Title V permit must include PSD requirements, including PSD requirements for $PM_{2.5}$. 40 C.F.R. 70.2 (defining "applicable requirements" that must be contained in a Part 70 permit to include Title I, Part C and its regulations). As U.S. EPA explained in its Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards ("Proposed $PM_{2.5}$ Implementation Rule"):

> Under the Title V regulations, major sources have an obligation to include in their Title V permit applications all emissions for which the source is major and all emissions of regulated air pollutants. The definition of regulated air pollutant in 40 C.F.R. 70.2 includes any pollutant for which a NAAQS has been promulgated, which would include both PM_{10} and $PM_{2.5}$.

70 Fed. Reg. 65984, at 66043 and 66058 (Nov. 1, 2005).

For purposes of issuing a Title V permit, all "applicable requirements" must be included in the permit. These include at least two components of the PSD program. First, the permit must include BACT limits for each "regulated NSR pollutant" which the source will emit in significant net amounts following a major modification. $PM_{2.5}$ is a "Regulated NSR pollutant" (i.e., a "pollutant subject to regulation under the Act") because EPA established a NAAQS for $PM_{2.5}$ in 1997. 62 Fed. Reg. 38711; 40 C.F.R. § 50.7; 326 IAC 2-2-1(uu)(4). The $PM_{2.5}$ NAAQS has been upheld by the Court of Appeals. *American Trucking Associations, Inc. v. EPA*, 283 F.3d 355 (D.C. Cir. 2002) (rejecting

industry's collateral attacks of the $PM_{2.5}$ rule in 2002). Therefore, $PM_{2.5}$ is a regulated NSR pollutant to which the BACT requirements apply and those BACT limits must be included in a Title V permit.

Second, a Title V permit must include requirements sufficient to prohibit the source's emissions from causing or contributing to a violation of ambient air quality standards. 42 U.S.C. § 7475(a)(3); 326 IAC 2-2-4; 316 IAC 2-2-5; 326 IAC 2-2-16; 326 IAC 2-1.1-5; and the NAAQS. Again, as separate NAAQS exist for $PM_{2.5}$, the air quality demonstration applies directly and independently to $PM_{2.5}$. Compliance with NAAQS for PM_{10} does not obviate the need to comply with NAAQS for $PM_{2.5}$; the $PM_{2.5}$ NAAQS is set at a different, more stringent, level than the PM_{10} NAAQS.

The Title V permit must contain these applicable requirements. The use of a surrogate does not and cannot relieve the permitting authority and the permit applicant from the duty to ensure that the permit includes limits reflecting the maximum degree of reduction of $PM_{2.5}$ through BACT limits and other conditions sufficient to ensure that the modification will not cause or contribute to violations of the $PM_{2.5}$ air quality standards. A permit that fails to contain such requirements is legally flawed.

B. Agency Review of the Permit

The Permit at issue in this petition is intended to renew Duke's Part 70 Operating Permit for its Edwardsport Generating Station in Knox County, issued on August 10, 2004 (IDEM Permit No. 083-7243-00003). During the term of the prior permit, in August 2006, the permitee sought a Significant Source PSD Modification (IDEM Permit No. 083-23529-00003) permit to allow it to construct new emissions sources, including new coal-

fired IGCC units. In public comments timely filed on December 26, 2007, Petitioners challenged that permit on the grounds, among others, that the IDEM failed to require a BACT analysis for $PM_{2.5}$ and failed to include a $PM_{2.5}$ limit in the permit. (Ex. 4.) IDEM issued the PSD modification permit on January 25, 2008, without modifying the draft permit based on Petitioners' $PM_{2.5}$ comments. In its addendum to the Technical Support Documents (TSD), also dated January 25, 2008, IDEM explained its decision related to the $PM_{2.5}$ issue as follows (in full):

> All references to particulate emissions in the permit and supporting documents are stated as "PM" and include PM, PM_{10}, and $PM_{2.5}$ (filterable PM, filterable and condensable PM_{10}). PM_{10} and $PM_{2.5}$ emissions are assumed to be equal to total PM emissions for each of the BACT analyses. For these analyses, IDEM has used the approach approved by the U.S. EPA to use PM_{10} as a surrogate for $PM_{2.5}$.
>
> On April 25, 2007, The U.S. EPA finalized its $PM_{2.5}$ implementation rule. However, the U.S. EPA decided **not** to include the NSR program in the implementation rule and stated that, "because there was an interim surrogate NSR program in place" (which allowed states to use PM_{10} as a surrogate between the effective date of the $PM_{2.5}$ NAAQS designation and until the U.S. EPA promulgates major NSR regulations for the implementation of $PM_{2.5}$), EPA would finalize the NSR part of the rule in a separate rulemaking at a later date. On September 21, 2007, the U.S. EPA proposed a separate rulemaking that proposed $PM_{2.5}$ increments, Significant Impact Levels, and a Significant Monitoring Concentration to facilitate implementation of the $PM_{2.5}$ PSD program. The preamble to that rule cites the interim surrogate policy for use of PM_{10} in lieu of $PM_{2.5}$ as part of a transition program for $PM_{2.5}$ implementation in NSR. The latter implementation rule has not been finalized.

(Ex. 5 (1/25/08 TSD Addendum), at p. 39 of 59 (emphasis in the original)). This issue has still not been resolved in the proceedings related to the PSD permit.

In November 2008, Duke sought a renewal of its Part 70 operating permit—the permit at issue here. A draft permit was noticed for comments on July 31, 2009. (IDEM Permit No. 083-27138-00003). On August 29, 2009, Petitioners timely submitted comments to IDEM on the draft permit. Among other bases for challenging the draft permit renewal, Petitioners commented that 1) the draft permit does not include a BACT limit for $PM_{2.5}$; and 2) the draft permit does not ensure that the plant will comply with NAAQS for $PM_{2.5}$. (Ex. 2 (Petitioners' Comments), at Sections I and II).

IDEM proposed the final permit on June 7, 2010.[3] IDEM did not change the permit upon reviewing Petitioners' comments related to $PM_{2.5}$. Nor did it substantively respond to Petitioners' comments. Rather, in support of not including a BACT limit for $PM_{2.5}$, IDEM reiterated its response given in response to Petitioners' comments to the modification permit (Permit No. 083-23529-00003), which is quoted above. (Ex. 6 (TSD Addendum), at Pages 6 of 53). In response to Petitioners' comment that the permit failed to ensure compliance with $PM_{2.5}$ NAAQS, IDEM responded that "[i]t is not necessary to demonstrate compliance with the $PM_{2.5}$ NAAQS since the PM_{10} surrogate policy is applicable and, as explained in the previous Response to Comment 1, IDEM has determined that it is reasonable to use PM_{10} as a surrogate for $PM_{2.5}$ for *this* permitting action at *this* source." (*Id.*, at Page 26 of 53 (emphasis added).) However, IDEM identifies no factual analysis in the record (or anywhere else) to support the use of PM_{10} as a surrogate for "*this* permitting action at *this* source," as IDEM claimed.

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[3] Region 5, Air and Radiation Division permit records website, available at <http://yosemite.epa.gov/r5/in_permt.nsf/6604e86c2aa5f1e886256de2006d98e6/b5ca745f0d8e9f2386257604003d576d!OpenDocument> (last visited September 13, 2010).

Rather, IDEM *only* asserted legal argument for why it can rely upon PM_{10} as a surrogate for $PM_{2.5}$.

Moreover, IDEM's legal argument is wrong. IDEM asserted that in the final rule (published on May 16, 2008, 73 FR 28321 ("May 2008 Rule")) establishing requirements for implementing a state's PSD program, SIP-approved states like Indiana were given three years to submit revised PSD programs to comply with $PM_{2.5}$ NAAQS to U.S. EPA for approval. According to IDEM, because Indiana has not yet completed its SIP revisions for $PM_{2.5}$, the PM_{10} surrogate program remains in effect for PSD permitting purposes. (Ex. 6 (TSD Addendum, Page 24 of 53).) IDEM acknowledges that "[o]n February 11, 2010, U.S. EPA published a proposed rule to, among other things, end the PM_{10} surrogacy policy established by previous guidance and rules, including the May 2008 Rule (75 FR 6827)." However, IDEM concludes "[t]hus, while EPA undoubtedly has concerns about continuing the surrogate policy, the policy remains in effect." (*Id.*, Page 25 of 53.) IDEM fails to recognize that EPA stayed the effectiveness of the PM_{10} surrogacy policy contained in the May 2008 Rule pending a rulemaking to revise the 2008 Rule.

After reviewing the proposed final permit, on June 30, 2010, counsel for the Petitioners contacted Region 5 to urge U.S. EPA to object to the permit because it fails to ensure compliance with $PM_{2.5}$ requirements. (Ex. 7.) U.S. EPA had 45 days to object to a proposed permit that fails to comply with applicable requirements of the CAA. 42 U.S.C. § 7661d(b)(1). Rather than object formally, on July 22, 2010, Region 5 wrote to the IDEM "strongly advis[ing] IDEM to ensure that it has fully and completely responded

to all stakeholder comments. In particular, IDEM should address whether or not EPA's position taken in recent petition orders is relevant to this permitting action." (Ex. 8). Region 5 further noted that "[s]hould EPA be in the position of considering a Title V petition on the Duke Edwardsport Title V renewal, IDEM's record will play a critical role in our petition response." *Id.* Yet, there is nothing in the permit record as of the date of the proposed permit (or even today to Petitioners' knowledge) to support IDEM's surrogacy decision. In fact, there is no record of any further review or consideration of this matter by the IDEM on its website.[4] In short, as Region 5's letter recognizes, a complete record is required before PM_{10} can be used as a surrogate for $PM_{2.5}$ (if ever). That record is missing here.

II. STANDARD OF REVIEW

In reviewing a Title V petition, the Administrator must object where petitioners "demonstrate" that the permit "is not in compliance with the requirements of [the Clean Air Act], including the requirements of the applicable implementation plan." 42 U.S.C. § 7661d(b)(2). The EPA will "generally look to see whether the Petitioner has shown that the state did not comply with its SIP-approved regulations governing PSD permitting or whether the state's exercise of discretion under such regulations was unreasonable or arbitrary." *In re Louisville Gas and Elec. Co.* (Trimble Co. Gen. Station),

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[4] *See* IDEM's Air Quality Permit Status Search *available at* http://www.in.gov/apps/idem/caats/loadPermitApplication.jspx?id=74047180308991 (last visited 9/13/10) (indicating permit status date the Permit as "proposed" as of 06/03/2010); *see also* IDEM's Virtual Filing Cabinet for Edwardsport *available at* http://12.186.81.89/Pages/Public/SearchResults.aspx?RegId=37554&DBSource=TEMPO (last visited 9/13/10) (listing the last record for the Permit as the release of the proposed final permit on June 7, 2010).

Petition No. IV-2008-3, Order on Petition at 5 (Adm'r, August 12, 2009)[5] (hereinafter "*Trimble*") (citing *In re East Kentucky Power Cooperative, Inc.* (Hugh L. Spurlock Generating Station) Petition No. IB-2006-4 (Order on Petition) (August 30, 2007)); *In re Pacific Coast Building Products, Inc.* (Order on Petition) (December 10, 1999); *In re Roosevelt Regional Landfill Regional Disposal Company* (Order on Petition) (May 4, 1999)). This inquiry includes whether the permitting authority "(1) follow[ed] the required procedures in the SIP; (2) [made] PSD determinations on reasonable grounds properly supported on the record; and (3) describe[d] the determinations in enforceable terms." *Id.* at 4 (citing 68 Fed. Reg. 9,892 (March 3, 2003) and 63 Fed. Reg. 13,795 (March 23, 1998)).

To guide her review, the Administrator has looked to the standard of review applied by the Environmental Appeals Board ("EAB") in making parallel determinations under the federal PSD permit program.[6] The EAB recently has reiterated the importance of BACT determinations, stating that they are "one of the most critical elements in the PSD permitting process and thus 'should be well documented in the record, and any decision to eliminate a control option should be adequately explained and justified.'" *In re Desert Rock Energy Company, LLC*, 14 E.A.D. __, PSD Appeal Nos. 08-03, 08-04, 08-05, & 08-06, Slip Op. at 50 (EAB, Sept. 24, 2009)

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[5] *Available at* http://www.epa.gov/region7/air/title5/petitiondb/petitions/lg_e_2nddecision2006.pdf.

[6] *Id.* at fn. 6. Petitioners note that they disagree with the importation of the EAB's clearly erroneous standard into the Title V process. A "preponderance of the evidence" standard is more appropriate for reviewing state agency Title V determinations. Unlike the standards of review adopted in 40 C.F.R. part 124 for EAB review, the Administrator's decision to object to a Title V permit is only based on a finding that the permit "is not in compliance with the requirements of" the Act. 42 U.S.C. § 7661d(b)(2). This is the typical preponderance standard for administrative findings.

(hereinafter "*Desert Rock*"). Therefore, the EAB has regularly remanded permits where the permitting authority's BACT analyses were "incomplete or the rationale was unclear." *Id.* Here, IDEM's record is incomplete, and its rationale, to the extent it exists and was provided by IDEM, is not based on factual support and is inconsistent with the Act.

III. THE ADMINISTRATOR MUST OBJECT BECAUSE THE PERMIT FAILS TO COMPLY WITH PSD REQUIREMENTS FOR FINE PARTICULATE MATTER.

The Administrator must object because IDEM attempts to avoid setting emission limits and determining air impacts for $PM_{2.5}$ based on an unjustified assumption that PM_{10} is a lawful surrogate for $PM_{2.5}$. Because IDEM's surrogacy approach is unlawful and not supported by any factual basis in the record, the Permit fails to meet BACT and air quality requirements for $PM_{2.5}$.

A. *Trimble* and Subsequent EPA Guidance.

The Administrator's Objection in *Trimble* recently and conclusively reiterated the EPA's position that using PM_{10} as a surrogate for $PM_{2.5}$ is generally not legally defensible.[7] The *Trimble* Objection states:

> On July 28, 1997, EPA revised the NAAQS for PM to add new standards for "fine" particulates, using $PM_{2.5}$ as the indicator. 62 Fed. Reg.

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[7] While the Administrator's decision in *Trimble* requires the Administrator to object to this Permit, as set forth below, it is Petitioners' position that the agency's prior surrogacy memoranda discussed in *Trimble* did not, and do not, supersede the authority of the Clean Air Act's implementing regulations. U.S. EPA does not have the power to effectively repeal a federal statutory requirement that States ensure that emissions from a given facility will not result in the violation of national ambient air quality standards for *any* pollutant. 42 U.S.C. 7410(a)(2)(D)(i)(I); 7470(1). Thus, irrespective of past memoranda, because U.S. EPA promulgated a NAAQS for $PM_{2.5}$, $PM_{2.5}$ is a pollutant for which a BACT limit must be set and modeling must be done to ensure that the NAAQS will not be violated. 40 C.F.R. § 52.21 (j), (k)(1).

39,852 (July 28, 1997). On October 17, 2006, EPA revised the NAAQS for both $PM_{2.5}$ and PM_{10}. 71 Fed. Reg. 61,236 (October 17, 2006). On October 23, 1997, EPA issued a memorandum from John S. Seitz regarding implementation of the 1997 standards entitled, "Interim Implementation for the New Source Review Requirements for $PM_{2.5}$" (Seitz Memorandum). The Seitz Memorandum explained that sources would be allowed to use implementation of a PM_{10} program as a surrogate for meeting $PM_{2.5}$ NSR requirements until certain technical difficulties were resolved. Seitz Memorandum at 1. On April 1, 2005, EPA issued a second guidance memorandum from Stephen D. Page (Page Memorandum), which re-affirmed the October 23, 1997 Memorandum. Page Memorandum at 1. On May 16, 2008, EPA promulgated the final rule entitled "Implementation of the New Source Review (NSR) Program for Particulate Matter Less than 2.5 Micrometers ($PM_{2.5}$) (May 2008 $PM_{2.5}$ NSR Implementation Rule). [73] Fed. Reg. 28,321 (May 16, 2008). In the preamble to that rule, EPA explained the transition to the $PM_{2.5}$ NSR requirements beginning on page 28,340. Specifically, EPA concluded that, if a SIP-approved state is unable to implement a PSD program for the $PM_{2.5}$ NAAQS based on that rule, the state may continue to implement a PM_{10} program as a surrogate to meet the PSD program requirements for $PM_{2.5}$ under the PM_{10} Surrogate Policy in the Seitz Memorandum. [73] Fed. Reg. at 28,340-28,341.

Use of PM_{10} as a Surrogate for $PM_{2.5}$

When EPA issued the PM_{10} Surrogate Policy in 1997, the Agency did not identify criteria to be applied before the policy could be used for satisfying the $PM_{2.5}$ requirements. However, courts have issued a number of opinions that are properly read as limiting the use of PM_{10} as a surrogate for meeting the PSD requirements for $PM_{2.5}$. Applicants and state permitting authorities seeking to rely on the PM_{10} Surrogate Policy should consider these opinions in determining whether PM_{10} serves as an adequate surrogate for meeting the $PM_{2.5}$ requirements in the case of the specific permit application at issue.

Courts have held that a surrogate may be used only after it has been shown to be reasonable to do so. *See, e.g., Sierra Club v. EPA*, 353 F.3d 976, 982-84 (D.C. Cir. 2004) (stating general principle that EPA may use a surrogate if it is "reasonable" to do so and applying analysis from *National Lime Assoc. v. EPA*, 233 F.3d 625, 637 (D.C. Cir. 2000) that is applicable to determining whether use of a surrogate is reasonable in setting emissions limitations for hazardous air pollutants under Section 112 of the Act); *Mossville Envt'l Action Now v. EPA*, 370 F.3d 1, 18 (D.C. Cir. 2004) (EPA must explain the correlation between the surrogate and the represented pollutant that provides the basis for the surrogacy); *Bluewater Network v.*

EPA, 370 F.3d 1, 18 (D.C. Cir. 2004) ("The Agency reasonably determined that regulating [hydrocarbons] would control PM pollution both because HCl provides a good proxy for regulating fine PM emissions"). Though these court decisions do not speak directly to the use of PM_{10} as a surrogate for $PM_{2.5}$, EPA believes that the overarching legal principle from these decisions is that a surrogate may be used only after it has been shown to be reasonable (such as where the surrogate is a reasonable proxy for the pollutant or has a predictable correlation to the pollutant). Further, we believe that this case law governs the use of EPA's PM_{10} Surrogate Policy, and thus that the legal principle from the case law applies where a permit applicant or state permitting authority seeks to rely upon the PM_{10} surrogate policy in lieu of $PM_{2.5}$ analysis to obtain a PSD permit.

With respect to PM surrogacy in particular, there are specific issues raised in the case law that bear on whether PM_{10} can be considered a reasonable surrogate for $PM_{2.5}$. The D.C. Circuit has concluded that PM_{10} was an arbitrary surrogate for a PM pollutant that is one fraction of PM_{10} where the use of PM_{10} as a surrogate for that fraction is "inherently confounded" by the presents of the other fraction of PM_{10}. *ATA v. EPA*, 175 F.3d 1027, 1054 (D.C. Cir. 1999) (PM_{10} is an arbitrary indicator for coarse PM ($PM_{10-2.5}$)). In another case, however, the D.C. Circuit held that the facts and circumstances in that instance provided a reasonable rationale for using PM_{10} as a surrogate for $PM_{2.5}$. *American Farm Bureau v. EPA*, 559 F.3d 512, 534-35 (D.C. Cir. 2009) (where record demonstrated that (1) $PM_{2.5}$ tends to be higher in urban areas th[a]n in rural areas, and (2) evidence of health effects from coarse PM in urban areas is stronger, EPA reasoned that setting a single PM_{10} standards for both urban and rural areas would tend to require lower coarse PM concentrations in urban areas. The court considered the reasoning from the ATA case and accepted that the presence of $PM_{2.5}$ in PM_{10} will cause the amount of coarse PM in PM_{10} to vary, but on the specific facts before it held that such variation was not arbitrary). EPA believes that these cases demonstrate the need for permit applicants and permitting authorities to determine whether PM_{10} is a reasonable surrogate for $PM_{2.5}$ under the facts and circumstances of the specific permit at issue, and not proceed on a generate presumption that PM_{10} is always a reasonable surrogate for $PM_{2.5}$.

This case law suggests that any person attempting to show that PM_{10} is a reasonable surrogate for $PM_{2.5}$ would need to address the differences between PM_{10} and $PM_{2.5}$. For example, emission controls used to capture coarse particles in some cases may be less effective in controlling for $PM_{2.5}$. 72 Fed. Reg. 20,586, 20,617 (April 25, 2007). Petitioners made this specific point in noting that finer material is not as

> efficiently removed by [a] baghouse as larger particles. Petition 2 at 40. As a further example, the particles that make up $PM_{2.5}$ may be transported over long distances while coarse particles normally travel only short distances. 70 Fed. Reg. 65,984, 65,997-98 (November 1, 2005). Under the principles in the case law, any person seeking to use the PM_{10} surrogate Policy properly would need to consider these differences between PM_{10} and $PM_{2.5}$ and demonstrate that PM_{10} is nonetheless an adequate surrogate for $PM_{2.5}$.
>
> Finally, the PM_{10} Surrogate Policy contains limits. As stated in the 1997 Seitz Memorandum, the PM_{10} Surrogate Policy provided that, in view of significant technical difficulties that existed in 1997, EPA believed that PM_{10} may properly be used as a surrogate for $PM_{2.5}$ in meeting NSR requirements "until these difficulties are resolved." Seitz Memorandum at 1. In their petition, Petitioners presented their explanation for why these technical difficulties have been resolved. Petition 2 at 45. While Petitioner may have overstated this point, subsequent to the filing of the Petition, EPA noted in the May 2008 $PM_{2.5}$ NSR Implementation Rule that "these difficulties have largely been resolved." 73 Fed. Reg. at 28,340/2-3.

Trimble Order at 42-44 (emphasis added).[8]

The *Trimble* decision was issued August 12, 2009, while the comment period on the draft permit at issue here was still open. *Trimble* was also quoted at length in Petitioners' comments to IDEM. (Ex. 2, pp. 2-7 (quoting *Trimble* Order at 42-46).) Nonetheless, IDEM did not alter its stance on PM_{10} surrogacy. Nor did IDEM even attempt to create a record to support the use of PM_{10} as a surrogate. Instead, IDEM merely pointed back to a prior response to similar comments. IDEM failed to heed EPA's admonition in *Trimble*:

> Sources and permitting authorities are encouraged to carefully consider the case law and the limits of the Surrogate Policy to determine what

[8] *See also* EPA Region 9's Motion for Voluntary Remand, *Desert Rock*, April 23, 2009, at 3-4, 9 (requesting remand of a permitting decision by Region 9 based on the PM_{10} surrogacy policy because the administrative record could not support use of the policy).

information and analysis would need to be included in the permit application and record before relying on the Surrogate Policy.

(*Trimble*, at p. 46.) EPA has similarly reiterated that the use of PM_{10} as a surrogate for $PM_{2.5}$ is dependent on specific factual demonstrations in the permit record:

> While we continue to allow states to use the PM_{10} surrogate policy during their transition to the new $PM_{2.5}$ requirements, we have also made it clear that the policy needs to be implemented by taking into account court decisions that address the surrogacy concept. Accordingly, an applicant seeking a PSD permit under a SIP-approved PSD program may still rely upon the PMlo surrogate policy as long as (1) the appropriateness of the PM_{10}-based assessment for determining $PM_{2.5}$ compliance has been adequately demonstrated based on the specifics of the project; and (2) the applicant can show that a $PM_{2.5}$ analysis is not technically feasible. Absent such demonstrations, applicants would be required to submit a $PM_{2.5}$ - based assessment to demonstrate compliance with the $PM_{2.5}$ standards, in addition to meeting the other requirements under the NSR/PSD programs.

Memorandum from Stephen Page, *Modeling Procedures for Demonstrating Compliance with $PM_{2.5}$ NAAQS* at 2 (March 10, 2010) ("Page March 2010 $PM_{2.5}$ Memo"), *available at* http://www.epa.gov/region07/air/nsr/nsrmemos/pm25memo.pdf.

In sum, to be lawful, the use of PM_{10} as a surrogate for $PM_{2.5}$ in permitting (including Title V permitting that incorporates PSD "applicable requirements"), a permit applicant or permitting agency must show: (1) it is reasonable to use a surrogate under the specific facts and circumstances of the specific permit at issue, not just adhering to a general assumption that PM_{10} is always a reasonable surrogate for $PM_{2.5}$; (2) the permit applicant or the permitting agency has adequately addressed the differences between PM_{10} and $PM_{2.5}$, such as effectiveness of pollution controls for the coarse versus fine particles and the transport distances based on particle size; and (3)

the current existence of technical difficulties that would necessitate relying on PM_{10} rather than setting an independent BACT limit for $PM_{2.5}$ and ensuring NAAQS compliance for $PM_{2.5}$ – a factor which is not likely to be met, given technical "difficulties have largely been resolved," according to the U.S. EPA May 2008 Rule.

Here, (1) there is **no** factual support to find it is reasonable to use a surrogate for $PM_{2.5}$ for this specific permit from this specific source; (2) there is **no** factual support to show differences between PM_{10} and $PM_{2.5}$ have been addressed; and (3) there is **no** factual support related to any technical difficulties that would necessitate using PM_{10} as a surrogate. There is, however, factual support to show to the contrary – that is, PM_{10} is **not** an equivalent standard for this specific permit from this specific source. The record shows that PM_{10} cannot be used as a surrogate for $PM_{2.5}$ because the plant will cause violations of the $PM_{2.5}$ NAAQS even where Duke's modeling indicated that the PM_{10} NAAQS would be protected.

Under the Act, its regulations, case law and EPA's guidance, the Permit is unlawful.

B. The Permit Fails To Include A BACT Limit For PM2.5.

Because $PM_{2.5}$ is regulated pollutant that will be emitted in a significant amount, a BACT limit for $PM_{2.5}$ is required for units added or modified since 1997. 326 IAC 2-2-3; 42 U.S.C. § 7475(a)(4); 40 C.F.R. § 52.21(j). A BACT limit for $PM_{2.5}$ is required for the IGCC units and associated equipment at the Edwardsport Generating Station, which were constructed after 1997 as part of a major modification to the facility in 2008 through present. Nevertheless, the Permit does not include a BACT limit for $PM_{2.5}$ from

the new and modified sources (including the new IGCC units and associated equipment), rather IDEM asserts that "PM_{10} and $PM_{2.5}$ emissions are assumed to be equal to total PM emissions for each of the BACT analyses." (Ex. 5, Page 39 of 59).

No attempt was made to develop a factual record to support the use of PM_{10} surrogacy. Therefore, it cannot meet the requirements of the Surrogacy Policy explained in *Trimble*. As a matter of law, the permit is faulty because it fails to contain applicable requirements: BACT limits for $PM_{2.5}$.

C. The Permit Fails To Ensure That The Plant Will Comply With Ambient Air Quality Standards For $PM_{2.5}$.

The Permit fails to include applicable requirements ensuring protection of $PM_{2.5}$ NAAQS. In fact, the Permit would allow emissions that cause violations of the $PM_{2.5}$ NAAQS. IDEM assumed that PM_{10} is a reasonable surrogate for $PM_{2.5}$, without any specific factual basis for backing up that assumption for this permit at this plant. The failure of IDEM to support this assumption in response to comments, or otherwise in this record, requires the Administrator to object to this permit. Moreover, based on the only $PM_{2.5}$ modeling in this record, the NAAQS would be violated. Therefore, the Permit must be objected to on substantive grounds as well.

1. *IDEM unlawfully allowed Duke to assume* PM_{10} *is the equivalent of PM* $PM_{2.5}$.

As discussed above, U.S. EPA separately regulates PM_{10} and $PM_{2.5}$ due to differences in health effects between the two, as reflected in the existence of separate NAAQS for PM_{10} and $PM_{2.5}$. In 1997, EPA issued an annual standard for $PM_{2.5}$ of 15 ug/m3, based on the 3-year average of annual mean $PM_{2.5}$ concentrations, and a 24-

hour standard of 65 ug/m3, based on the 3-year average of the 98th percentile of 24-hour concentrations. In September 2006, U.S. EPA tightened the 24-hour standard to 35 ug/m3 and retained the annual standard of 15 ug/m3. U.S. EPA articulated the dangers of $PM_{2.5}$ in its recent Fine Particle Implementation Rule, stating:

> The EPA established air quality standards for $PM_{2.5}$ based on evidence from numerous health studies demonstrating that serious health effects are associated with exposures to elevated levels of $PM_{2.5}$. Epidemiological studies have shown statistically significant correlations between elevated $PM_{2.5}$ levels and premature mortality. Other important effects associated with $PM_{2.5}$ exposure include aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days), changes in lung function and increased respiratory symptoms, as well as new evidence for more subtle indicators of cardiovascular health. Individuals particularly sensitive to $PM_{2.5}$ exposure include older adults, people with heart and lung disease, and children.

Clean Air Fine Particle Implementation Rule, 72 Fed. Reg. 20586, 20586-20587 (Apr. 25, 2007). The numerous and grave harms of $PM_{2.5}$ make it wholly impermissible to act as if PM_{10} *is* $PM_{2.5}$ in air quality permitting.

IDEM purports to rely on prior guidance memos by EPA, but as thoroughly discussed in the *Trimble* Order, those memos provide no legal support for ignoring $PM_{2.5}$ impacts. The U.S. EPA has rejected continuing reliance on those memos for general authorization to use PM_{10} as a surrogate.

The U.S. EPA's recommended use of PM_{10} as a surrogate for $PM_{2.5}$ expired by its own terms when U.S. EPA published the final $PM_{2.5}$ implementation rule in April 2007. The 1997 Seitz Memo provided *interim* guidance for implementing the new $PM_{2.5}$ NAAQS. This now nearly ten-year-old memo stated that sources could use the PM_{10}

surrogacy approach to meet NSR requirements until certain difficulties were resolved, most notably with respect to monitoring, emissions estimation, and air quality modeling. The more recent--but still dated for the purposes of the present Permit--Page Memo included a qualified reaffirmation of the surrogacy approach. The Page Memo noted that U.S. EPA recommended using PM_{10} as a surrogate for $PM_{2.5}$ "until [U.S. EPA] promulgate[s] the $PM_{2.5}$ implementation rule." Not more than six months later, U.S. EPA published a proposed $PM_{2.5}$ implementation rule. The proposed rule made clear that the surrogacy approach would expire when the proposed rule was finalized. U.S. EPA, *Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards* ("Proposed $PM_{2.5}$ Implementation Rule"), 70 Fed. Reg. 65984, at 66043 and 66058 (Nov. 1, 2005) ("To date, some permitted entities have been using PM_{10} emissions as a surrogate for $PM_{2.5}$ emissions. Upon promulgation of this rule, EPA will no longer accept the use of PM_{10} as a surrogate for $PM_{2.5}$."); *see also id.* at 20,659-60 (listing circumstances necessitating the quantification of $PM_{2.5}$ emissions). Reliance on guidance that U.S. EPA itself has abandoned is in direct conflict with the Clean Air Act's requirements.

Moreover, even when surrogacy is used, it requires comparison of PM_{10} modeling results to the $PM_{2.5}$ NAAQS. It does not allow effectively ignoring the more stringent $PM_{2.5}$ NAAQS by comparing PM_{10} modeling results to the PM_{10} NAAQS.

> A simple example illustrating when a PM_{10} modeling analysis might serve as a surrogate for $PM_{2.5}$ modeling would be if a clearly conservative assumption is made that all PM_{10} emissions are $PM_{2.5}$, and the modeled

> PM_{10} impacts are taken as a direct surrogate for $PM_{2.5}$ impacts and compared to the $PM_{2.5}$ NAAQS.

Page March 2010 $PM_{2.5}$ Memo, at 4 (emphasis added). Here, IDEM not only failed to create a record to support the use of PM_{10} surrogacy, it wrongly applied surrogacy. IDEM did not compare the results of PM_{10} modeling to $PM_{2.5}$ NAAQS. If the PM_{10} results were compared to the $PM_{2.5}$ NAAQS, as required under the surrogacy policy, the permit could not be issued. The results of the PM_{10} modeling for annual and 24 hour exceed the 15 *ug/m3* and 35 *ug/m3* standards, respectively:

Duke Energy Indiana - Edwardsport Gen. Station
Edwardsport, Indiana
Permit Writer: Jeffrey Stoakes

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PSD/SSM Permit No. T083-28683-00003

Pollutant	Year	Time-Averaging Period	Maximum Concentration ug/m3	Background Concentration ug/m3	Total ug/m3	NAAQS Limit ug/m3	NAAQS Violation
NO_2	1987	Annual [4] 18.5		19.4	29.9	100	NO
PM_{10}	1987	Annual[4] 3.8		26	29.8	50	NO
PM_{10}	1990	24 hour	23.9	46.3	70.2	150	NO
CO	1989	1 hour	5314	3698	9012	40000	NO
CO	1987	8 hour	1910	2259	4169	10000	NO
SO_2	1989	3 Hour[5] 591		225	816	1300	NO
SO_2	1989	24 hour[5] 168		76	244	365	NO
SO_2	1991	Annual[4] 22.1		19.4 41.5		80	NO

[4] First highest values per EPA NSR manual October 1990.
[5] High 2nd high values per EPA NSR manual October 1990.
[6] Any differences between the maximum concentration numbers in Tables 5 and 6 are due to different sources used for the NAAQS and the increment inventories. Table 2 maximum concentrations are from Duke Energy only.

Source: Air Quality Analysis, Technical Support Document for Permit 083 28683-0003 (March 1, 2010), (Ex. 9).

Finally, technical difficulties in directly implementing the $PM_{2.5}$ NAAQS that grounded the interim guidance back in 1997 have been resolved.[9] Any assertions regarding technical limitations relative to $PM_{2.5}$ are outdated. Technical capabilities for modeling $PM_{2.5}$ clearly exist. *See* 70 Fed. Reg. 68218, 68234-68235, 40 C.F.R. § 51, App W, 5.1 (e), (f), (h), 5.2.2.1. EPA has identified available models to analyze the impacts of $PM_{2.5}$ in its Guideline to Air Quality Models. *See* Appendix W of 40 C.F.R. § 51, proscribing modeling requirements for small particles ($PM_{2.5}$); *see* also 40 C.F.R. § 52.21(l); 61 Fed. Reg. 41838, 41850, 40 C.F.R. § 51, App W, 7.2.2(c) (August 1996) (showing that historically, "ISC [was] recommended for point sources of small particles . . . "); *see also* 70 Fed. Reg. 68218, 68234, 40 C.F.R. § 51, App W, 5.1 (e),(f),(h) (December 2005). Appendix W "addresses the regulatory application of air quality models for assessing criteria pollutants under the Clean Air Act." 70 Fed. Reg. 68218, *Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions*, Appendix W of 40 C.F.R. § 51 ("The Modeling Guideline"), Summary. The Guideline provides for modeling of $PM_{2.5}$ using both the ISC and AERMOD models. *See also* Page March 2010 $PM_{2.5}$ Memo. U.S. EPA has approved two methods, CTM-039 and CTM-040, for measuring $PM_{2.5}$. 72 Fed. Reg. 20586, 20653.

Any impracticalities referenced in earlier U.S. EPA memos as the basis for using PM_{10} as a surrogate (modeling, emission calculations and estimates, etc.) have been resolved. Indeed, Indiana requires reporting of $PM_{2.5}$ emissions, and in doing so

[9] *See* Seitz Memo at par. 1.

implicitly recognized that the emission calculation and estimation issues for $PM_{2.5}$ were resolved at the time the permit was drafted. 326 IAC 2-6-4(a)(7). Yet, IDEM modeled impacts from the Edwardsport plant for PM_{10} but not $PM_{2.5}$. The Permit is legally flawed and the Administrator must object.

2. *IDEM ignored factual support showing that PM2.5 NAAQS is violated.*

Petitioners presented modeling support for their comments to IDEM to show that: 1) it is not technically difficult to model $PM_{2.5}$ impacts; and 2) when $PM_{2.5}$ impacts are modeled, the results show that the Edwardsport plant will cause violations of the $PM_{2.5}$ NAAQS. (Ex. 3.) The modeling used inputs obtained from IDEM for the PSD modification permit (IDEM Permit No. 083-23529-00003). [10] Emission rates of PM_{10} were even corrected for $PM_{2.5}$ emission rates, which means the modeled results are lower than if a conservative estimate was used by assuming that all PM_{10} is $PM_{2.5}$. Based on Petitioners' initial modeling (presented in Table 1), the predicted 24-hour average

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[10] Using inputs obtained from IDEM, including the modeling files provided by Duke Energy (i.e. the file called "duke pm10naaqs_88_OTHER.DTA") and IDEM's background concentrations for Knox County, the modeling results show that NAAQS (as well as U.S. EPA's proposed PSD increments) will be exceeded. This analysis assumed that 100% of the PM emissions from combustion sources are $PM_{2.5}$ fraction. This assumption was made based on statements in the Duke permit application (IDEM Permit No. T083-23529-00003) and IDEM technical support documents which assumed that PM, PM_{10} and $PM_{2.5}$ emissions were identical. In Addendum No. 1 to its significant source modification dated July 9, 2007, Duke's Response to NOD No. 2 – IDEM Deficiency #11 states that: "In Section 1.4 of the permit application, Duke Energy states that PM includes PM_{10} and $PM_{2.5}$ and will be referenced as PM throughout the document. As a worst case analysis, Duke set emissions of PM = PM_{10} = $PM_{2.5}$." On Page 8 of Appendix B – BACT Analyses of its Technical Support Document (TSD) for Significant Source Modification No. T083 23529 00003 for the Duke Energy Indiana – Edwardsport Generating Station, IDEM states: "For purposes of this BACT evaluation, any reference to particulate emissions includes PM, PM_{10} and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions are assumed to be equal to PM emissions." In its Technical Support Document (TSD) for Significant Source Modification No. T083-23529-00003 for the Duke Energy Indiana – Edwardsport Generating Station, IDEM summarizes $PM_{2.5}$ emissions which are identical to the PM emissions. (Ex. 3 (Klafka Aff.), at ¶ 6).

concentration is 41.6 $\mu g/m^3$, exceeding the NAAQS of 35 $\mu g/m^3$, and the predicted annual average concentration is 15.48 $\mu g/m^3$, also exceeding the NAAQS of 15 $\mu g/m^3$:

Table 1
Duke IGCC - Edwardsport, IN - PM2.5 Modeling Results

Air Standard	Averaging Period	Highest Value	Predicted Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Concentration ($\mu g/m^3$)	Air Standard ($\mu g/m^3$)	Standard Exceeded
Proposed Increment	24	8th	9.93			9	Yes
	Annual	1st	1.68			4	No
NAAQS	24	8th	9.93	31.7	**41.6**	35	Yes
	Annual	1st	1.68	13.8	**15.48**	15	Yes

Note 1 Values for Proposed Increment from Federal Register / Vol. 72, No. 183 / Friday, September 21, 2007

Note 2 Background provided by IDEM from Knox County monitor for 2006-08 period.

Note 3 Modeling results based on analysis using 1988 meteorological year.

(Ex. 3, (Klafka Aff.), at ¶¶ 6-10).

This is the only modeling of $PM_{2.5}$ that has been made part of the public record. Rather than attempt to verify or run its own $PM_{2.5}$ modeling, IDEM simply asserted that "the PM_{10} surrogate program remains in effect." (Ex. 6 (Addendum to TSD, Pages 24 of 53).) For the reasons set forth above, IDEM's legal conclusions are wrong and the Permit must be objected to on those grounds. Additionally, the Permit must be objected to on substantive grounds because the $PM_{2.5}$ NAAQS are violated by the Edwardsport plant under the proposed permit. Modeling $PM_{2.5}$ directly shows violations. Moreover, even if it were appropriate to use PM_{10} as a surrogate, IDEM did so wrongly by not comparing PM_{10} modeled impacts to the $PM_{2.5}$ NAAQS.

After the comment period ended for the draft permit, on March 23, 2010, the U.S. EPA issued its guidance memo on Procedures for Demonstrating Compliance with the $PM_{2.5}$ NAAQS. (Ex. 3, Klafka, Attach. B). Although the proposed Permit had not been issued when that guidance was published, IDEM did not supplement its addendum to its Technical Support Documents or otherwise add to the record on modeling $PM_{2.5}$. (*See* Ex. 7 (May 24, 2010 U.S. EPA Objection to East Kentucky Power Cooperative's J.K. Smith Plant attached to Bender Email to Hedman, et al.) (noting that the March 23, 2010 guidance provides the procedures to perform a $PM_{2.5}$ NAAQS compliance analysis), at 1). Petitioners have conducted the analysis that IDEM failed to do. Petitioners modeled the Edwardsport plant's impacts based on the March 23, 2010 Guidelines. Those results are summarized in Table 2, which show that the predicted 24-hour average concentration is 49.5 $\mu g/m^3$, exceeding the NAAQS of 35 $\mu g/m^3$. The predicted annual average concentration is 15.0 $\mu g/m^3$, which is exactly at the NAAQS of 15 $\mu g/m^3$:

Table 2 - Updated Duke Energy Edwardsport $PM_{2.5}$ Modeling Results Based on March 23, 2010 Guidance

Averaging	1988	1989	1990	1991	1992	Average	Background	Total	NAAQS
Period	Maximum Concentration ($\mu g/m^3$)					($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)
24-hour	20.2	12.8	18.3	14.0	23.7	17.8	31.7	**49.5**	35
Annual	1.7	1.3	1.1	1.0	1.0	1.2	13.8	**15.0**	15

(Ex. 3, (Klafka Aff.), at ¶13). Notably, these model results are lower than they would be if more accurate weather data were available. As noted in the attached Affidavit, the Petitioners ran the model with the same weather data that IDEM used for its PM_{10} analysis. More accurate modeling would use more precise weather data that do not

exclude low wind speed periods. In short, based on all of the modeling data in the record, the Edwardsport plant will cause violations of the current NAAQS for $PM_{2.5}$,[11] including when $PM_{2.5}$ is modeled under the March 23, 2010 Guidance. Thus, even though IDEM's modeling shows compliance with the PM_{10} NAAQS, $PM_{2.5}$ NAAQS is violated, conclusively demonstrating the misuse of a surrogate for this permit at this plant.

The Administrator must object to this permit because it does not contain applicable requirements including emission limits and other conditions necessary to ensure that emissions from the Duke Edwardsport plant do not cause or contribute to violations of NAAQS.

IV. CONCLUSION

For the above reasons, the Permit fails to comply with the Clean Air Act and all applicable requirements, and the Administrator must object. Petitioners have demonstrated that the permit does not include the required $PM_{2.5}$ BACT limits, and that it fails to include the conditions necessary to prevent violations of the $PM_{2.5}$ NAAQS. To this end, the Administrator must include in her order specific terms and conditions necessary to remedy the inadequacies described in this petition. *See* 40 C.F.R. §

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[11] In fact, the District of Columbia Circuit Court of Appeals remanded the NAAQS because they are not sufficiently protective of public health. U.S. EPA is expected to revise the current standards lower. This means that the emissions from the Edwardsport plant—based on the emission limits in the permit—will cause air pollution far in excess of the concentrations that are known to be harmful to human health and welfare.

70.8(c)(2) ("Any EPA objection under paragraph (c)(1) of this section *shall* include... a description of the *terms and conditions that the permit must include* to respond to the objections" (emphasis added)). Petitioners urge the Administrator to require IDEM to include the following terms and conditions, as well as any others that she deems necessary and appropriate to ensure compliance with all applicable requirements:

a. $PM_{2.5}$-specific emission limits, operating/work practice standards and compliance measures sufficient to meet $PM_{2.5}$ BACT requirements, including full use of $PM_{2.5}$-specific control options including, but not limited to, clean fuels and stringent limits on precursors; and

b. $PM_{2.5}$-specific emission limits, operating/work practice standards and compliance measures, as well as preconstruction and postconstruction onsite monitoring, sufficient to protect the $PM_{2.5}$ NAAQS based on a complete air quality modeling analysis for $PM_{2.5}$.

The Administrator should also exercise her authority under sections 113 and 167, 42 U.S.C. §§ 7413, 7477, of the Clean Air Act to stop construction work on, or otherwise prevent the Edwardsport plant from causing or contributing to violations of the health-protecting $PM_{2.5}$ NAAQS, and direct the agency to correct its errors by revising or revoking the Permit.

Respectfully submitted,

On behalf of:
SAVE THE VALLEY
SIERRA CLUB
VALLEY WATCH

DATED: September 16, 2010.

Service List

Petition Requesting that the Administrator Object to the Issuance of the Proposed Title V Operating Permit for the Edwardsport Generating Station

September 16, 2010

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