BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of the PSD/New Source Construction and Part 70 Operating Permit

OHIO VALLEY RESOURCES, LLC, 300-400 East CR 350 North, Rockport, Indiana, 47635, to operate emission units including two urea ammonium nitrate plants in Spencer County, Indiana

Permit No. T 147-32322-00062

Petition No.: V-2013-_____

Issued by the Indiana Department of Environmental Management

PETITION REQUESTING THAT THE ADMINISTRATOR OBJECT TO THE ISSUANCE OF A TITLE V OPERATING PERMIT FOR OHIO VALLEY RESOURCES, LLC

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On behalf of:

SIERRA CLUB

SPENCER COUNTY CITIZENS FOR QUALITY OF LIFE

VALLEY WATCH, INC.

Date: November 20, 2013

Pursuant to Clean Air Act § 505(b)(2) and 40 CFR § 70.8(d), Sierra Club, Spencer County Citizens for Environmental Quality, and Valley Watch, Inc. ("Petitioners") hereby petition the Administrator of the United States Environmental Protection Agency ("U.S. EPA") to object to the New Source Construction and Part 70 Operating Permit ("Permit"), issued by the Indiana Department of Environmental Management ("IDEM" or "Agency") to Ohio Valley Resources ("OVR" 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 are attached as **Exhibits 2** (Sierra Club) **and 3** (Valley Watch, Inc.). The Agency's initial statement of basis, a/k/a Technical Support Document ("TSD"), is attached as **Exhibit 4**, and its TSD Addendum containing IDEM's response to comments is attached as **Exhibit 5**. The response to comments also cites comments of members of Spencer County Citizens for Quality of Life, including concerns about health impacts, and additional verbal comments of the Sierra Club and Valley Watch, Inc. *E.g.*, Ex. 5, TSD Addendum at 66, 74-76.

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, or fails to include any "applicable requirement," 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."). In this case, since the Permit has already been issued, EPA or IDEM must modify, terminate, or revoke and reissue the Permit to address the Administrator's objections. 40 C.F.R. §§ 70.7(g)(4) and (5)(i), (ii), 70.8(d).

The Permit fails to comply with the applicable CAA requirements and/or the requirements of 40 C.F.R. Part 70 in the following ways:

1. IDEM failed to ensure compliance with the requirement that the OVR plant demonstrate that its emissions do not cause or contribute to violations of the NAAQS and the PSD increments because IDEM relied on unsupported and unlawful "significant impact levels," and because its use of SILs is not supported by record evidence.

2. IDEM failed to conduct the required increment analysis based on all contributions from Ohio Valley Resources, and improperly limited its analysis to parameters exceeding a "significant impact level," and because its use of "significant impact levels" in this manner is not supported by record evidence.

3. IDEM failed to ensure compliance with the PSD program's requirement for preconstruction monitoring for PM2.5 based on IDEM's reliance on an unlawful and vacated "significant monitoring concentration" regulation.

4. IDEM failed to ensure compliance with the PSD program's requirement for preconstruction monitoring because the ambient air monitors IDEM used as background for the OVR facility do not comply with the mandatory Monitoring Guidelines.

5. IDEM failed to ensure compliance with the requirement that the OVR plant demonstrate that its NO2 emissions do not cause or contribute to violations of the 1-hour NAAQS because the permit allows averaging periods inconsistent with the maximum hourly emission assumptions IDEM's air quality modeling was based on.

BACKGROUND

A. The Title V Permitting Program.

Section 502(d)(1) of the CAA, 42 U.S.C. § 7661a(d)(1), requires each state to develop and submit to EPA an operating permit program intended to meet the requirements of Title V of the Act. EPA granted final full approval of the Indiana Title V operating permit program effective November 30, 2001. 66 Fed. Reg. 62969 (Dec. 4, 2001). Indiana's Title V program is incorporated into the Indiana Administrative Code at 326 IAC 2-7.

All major stationary sources of air pollution and certain other sources are required to apply for Title V operating permits that include emission limits and such other conditions as are necessary to ensure compliance with applicable requirements of the Act, including the requirements of the applicable State Implementation Plan ("SIP"). 42 U.S.C. § 7661a(a) and 7661c(a). The Title V operating permit program does not generally impose new substantive air quality control requirements (referred to as "applicable requirements"), but does require permits to contain monitoring, recordkeeping, and other requirements to assure compliance by sources with existing applicable emission control requirements. 57 Fed. Reg. 32250, 32251 (July 21, 1992); 326 IAC 2-7-5(3) (requiring permits to contain "[m]onitoring and related record keeping and

reporting requirements, which assure that all reasonable information is provided to evaluate *continuous compliance* with the applicable requirements") (emphasis added). A central purpose of the Title V program is to "enable the source, states, EPA, and the public to better understand those requirements to which the source is subject, and whether the source is meeting those requirements." 57 Fed. Reg. at 32251. Thus, "the Title V operating permit program is a vehicle for ensuring that existing air quality control requirements are appropriately applied to facility emission units and that compliance with these requirements is assured." *In re BP Products North America, Inc., Whiting Business Unit*, Permit No. 089-25488-00453 at 2 (Order, 10/16/09) (hereinafter "*BP Whiting*").[1]

A Title V permit must include requirements of the CAA's Prevention of Significant Deterioration ("PSD") program, including the obligation to comply with Best Available Control Technology ("BACT") limits and undertake air impact analyses. 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); *In re Monroe Electric Generating Plant*, Petition No. 6-99-2 at 2 (EPA Adm'r 1999). "Applicable requirements" also include requirements under CAA § 112. 326 IAC 2-7-1(6)(D).

[1] *Available at* http://www.epa.gov/region7/air/title5/petitiondb/petitions/bpwhiting_response2008.pdf.

B. Agency Review of the Permit.

On September 17, 2012, Ohio Valley Resources ("OVR") applied to IDEM for the subject permit to construct and operate a new nitrogenous fertilizer production plant. Multiple emission points are proposed and have been permitted, including:

- **A reformer process for production of hydrogen and nitrogen syngas**, consisting of one (1) primary reformer with a maximum rated heat input capacity of 1,006.4 MMBtu/hr. using selective catalytic reduction for NOx emissions control, equipped with a NOx CEMS and exhausting to the ambient atmosphere through stack EP-003; one (1) CO2 purification process, identified as EU-004, with a maximum rated CO2 production of 3,570 ton per day, approved for construction in 2013, and exhausting to the ambient atmosphere through stack EP-004; and one (1) front end process flare for combusting intermittent process gas emissions from maintenance, startup, shutdown, and malfunctions, identified as EU-007, with a pilot nominally rated at 0.253 MMBtu/hr, approved for construction in 2013, utilizing proper flare design and operation minimization practices, and exhausting to the ambient atmosphere through the emission point EP-007.

- **An ammonia unit with a maximum throughput capacity of 2,800 ton/day of ammonia**, consisting of one (1) ammonia catalyst startup heater, identified as EU-010, approved for construction in 2013, with a maximum rated heat input capacity of 106.3 MMBtu/hr, utilizing no control devices, and exhausting to the ambient atmosphere through stack EP-010; one (1) back end ammonia process vent flare for combusting intermittent process gas emissions from maintenance, startup, shutdown, and malfunctions, identified as EU-006, approved for construction in 2013, with pilot capacity of 0.253 MMBtu per hour, utilizing proper flare design and operation minimization practices, and exhausting to the ambient atmosphere through emission point EP-006; four (4) ammonia bullet tanks, identified as EU-023A through EU-023D, with a maximum rated capacity of 90,000 gallons each, approved for construction in 2013, utilizing the flare identified as EU-005 as an emission control device, and exhausting to the ambient atmosphere through emissions point EP-005; three (3) ammonia cold storage tanks, identified as EU-013A, EU-013B, and EU-013C, with a maximum rated capacity of 40,000 tons each, approved for construction in 2013, utilizing the flare identified as EU-005 as an emission control device, and exhausting to the ambient atmosphere through emission point EP-005; and one (1) ammonia storage flare, identified as EU-005, approved for construction in 2013, with pilot capacity of 0.126 MMBtu per hour, utilizing proper flare design and operation minimization practices, and exhausting to the ambient atmosphere through emission point EP-005.

- **Two (2) urea ammonium nitrate (UAN) units, including the production of urea, nitric acid, ammonium nitrate, and diesel exhaust fluid (DEF)**, consisting of: two (2) nitric acid units, identified as EU-001A and EU-001B, with a maximum throughput capacity of 630 ton/day of 100% nitric acid each, approved for construction in 2013, equipped with selective catalytic reduction for NOx control, catalytic decomposition for N2O control, and a NOx CEMS, and exhausting to the ambient atmosphere through tailgas stacks EP-001A and EP-001B; two (2) nitric acid storage tanks, identified as EU-022A and EU-022B, approved for construction in 2013, with a maximum throughput of 1,105 ton/day of 57% nitric acid each, and exhausting to the ambient atmosphere through the UAN process vent stacks EP-002A and EP-002B; two (2) ammonium nitrate (AN) units, identified as EU-002A and EU-002B, approved for construction in 2013, with a maximum throughput capacity of 798 ton/day of ammonium nitrate each, utilizing a scrubber with particulate demister for particulate matter control, and exhausting to the ambient atmosphere through stacks EP-002A and EP-002B; two (2) UAN Storage Tanks, identified as EU-012A and EU-012B, approved for construction in 2013, with a maximum rated capacity of 30,000 tons each, and exhausting to the ambient atmosphere through vents EP-012A and EP-012B; three (3) UAN Day Tanks, identified as EU-020A, EU-020B, and EU-020C, approved for construction in 2013, with a maximum rated capacity of 750 tons each, and exhausting to the ambient atmosphere through vents EP-020A, EP-020B, and EP-020C; two (2) UAN loadout facilities (one (1) truck and one (1) for rail), identified as EU-024A and EU-024B, approved for construction in 2013, and exhausting to the ambient atmosphere as fugitive emission sources EP-024A and EP-024B; one (1) UAN plant vent flare for combusting intermittent process gas emissions from maintenance, startup, shutdown, and malfunctions, identified as EU-017, approved for construction in 2013, with a pilot capacity of 0.189 MMBtu per hour, utilizing proper flare design and operation minimization practices, and exhausting to the ambient atmosphere through emission point EP-017; one (1) DEF tank, identified as EU-021, approved for construction in 2013, with capacity of 100 tons, and exhausting to the ambient atmosphere through vent EP-021; one (1) DEF truck loadout facility, identified as EU-025, approved for construction in 2013, and exhausting to the ambient atmosphere as fugitive emission source EP-025.

- **Four (4) natural gas-fired boilers**, identified as EU-011A, EU-011B, EU-011C, and EU-011D, approved for construction in 2013, with a maximum rated heat input capacity of 218 MMBtu/hr each, using ultra low NOx burners and flue gas recirculation for NOx emissions control, equipped with NOx CEMS, and exhausting to the ambient atmosphere through stacks EP-011A, EP-011B, EP-011C, and EP-011D.

- **One (1) diesel-fired emergency generator**, identified as EU-009, approved for construction in 2013, with a maximum rated capacity of 4,690 horsepower, utilizing no control devices, and exhausting to the ambient atmosphere through stack EP-009.

Ex. 1, Final Permit at 8-10. A number of "insignificant" and "trivial" activities are also proposed. *Id.* at 10-13.

On February 28 and March 28, 2013, IDEM's Office of Air Quality caused a notice to be published stating it intended to issue a PSD/New Source Construction and Part 70 Operating Permit to OVR to construct and operate a new nitrogenous fertilizer production plant. Ex. 5, TSD Addendum at 1. The notices solicited written comments and triggered multiple requests for a public hearing. *Id.* That hearing was noticed on April 4, 2013, and held on May 15, 2013 at the South Spencer County High School in Rockport, IN. *Id.* Sierra Club, Spencer County Citizens for Quality of Life, and Valley Watch, Inc., among many others, provided written comments on the permit.

IDEM proposed the permit to U.S. EPA on August 7, 2013. EPA's 45-day review period pursuant to 42 U.S.C. § 7661d(b)(1) ended on September 21, 2013. The final permit was issued on September 25, 2013. The 60 day petition period pursuant to 42 U.S.C. § 7661d(b)(2) runs through November 20, 2013. This petition is therefore timely and the Administrator must respond and grant or deny this petition within sixty (60) days of receipt. 42 U.S.C. § 7661d(c).

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), Petition No. IV-2008-3, Order on Petition at 5 (Adm'r, August 12, 2009)[2] (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.[3]

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

[3] *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.

OBJECTIONS

I. THE ADMINISTRATOR MUST OBJECT BECAUSE IDEM USED IMPROPER SIGNIFICANT IMPACT LIMITS IN ITS NAAQS AND PSD INCREMENT ANALYSIS, AND ITS DECISION IS NOT SUPPORTED BY RECORD EVIDENCE

IDEM conducted an ambient air quality impact analysis to determine whether the OVR facility would "cause, or contribute to, air pollution in excess of any (A) maximum allowable concentration for any pollutant... [or] (B) national ambient air quality standard in any air quality control region...." 42 U.S.C. § 7475(a)(3). In the first step of its analysis, IDEM modeled the impacts from only the OVR emission sources and compared the modeled impacts to so-called "significant impact levels." *See* Ex. 4, TSD Appendix C at 4 of 17. The results of that analysis were provided by IDEM as follows:

TABLE 2
Significant Impact Analysis[3]

POLLUTANT	TIME AVERAGING PERIOD	MAXIMUM MODELED IMPACTS ($\mu g/m^3$)	SIGNIFICANT IMPACT LEVEL ($\mu g/m^3$)	REFINED AQ ANALYSIS REQUIRED
NO_2	Annual[1]	0.97	1	No
NO_2	1-hour[2]	105.9	7.55	Yes
PM_{10}	Annual[1]	0.61	1	No
PM_{10}	24-hour[1]	3.91	5	No
$PM_{2.5}$	Annual[2]	0.26	0.3	No
$PM_{2.5}$	24-hour[2]	2.10	1.2	Yes
CO	1-hour[1]	1,521	2000	No
CO	8-hour[1]	247	500	No

[1]First highest values per EPA NSR manual October 1990.
[2] In accordance with recent U.S. EPA guidance, the highest modeled concentration may be averaged over the five years modeled for comparison with the 1-hour NO_2, 1-hour SO_2, 24-hour $PM_{2.5}$, and the annual $PM_{2.5}$ SIL. See the March 01, 2011 and the March 23, 2010 memorandums. [3]Impacts are from OVR only.

Id. Where IDEM's preliminary step showed that the OVR's impacts would exceed the value IDEM identified as a "significant impact level" (1-hour NO_2 and 24-hour $PM_{2.5}$), IDEM proceeded to conduct a further analysis of whether the facility's impacts, when

combined with the impacts from other sources (including both nearby sources included in the model and general background concentrations from other, further away facilities), would "cause or contribute" to a violation of the NAAQS or the increments. Ex. 4, TSD Appendix C at 6 and 8 of 17. Specifically, IDEM provided the following results from the NAAQS and increment analysis, respectively:

TABLE 5[1]
NAAQS Analysis

Pollutant	Year	Time-Averaging Period	Maximum Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total ($\mu g/m^3$)	NAAQS Limit ($\mu g/m^3$)	NAAQS Violation
NO_2	2006-2010	1-hour	531.3[2]	66.5	597.8	188.6	Yes
$PM_{2.5}$	2006-2010	24-hour	26.2[2,3]	27.0	49.2	35	Yes
NO_2	2006-2010	Annual	7.58	27.8	35.4	100	No

[1] 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.
[2] In accordance with recent U.S. EPA guidance, the highest modeled concentration may be averaged over the five years. See the March 23, 2010, memorandum from EPA.
[3] Listed in this table is the highest 1-hour period for any receptor at which the project was above the SIL. This did not include impacts from sources onto their own property.

TABLE 6[1]
Increment Analysis

Pollutant	Year	Time-Averaging Period	Maximum Concentration ($\mu g/m^3$)	PSD Increment ($\mu g/m^3$)	Percent Impact on the PSD Increment	Increment Violation
$PM_{2.5}$	2006-2010	24-hour[2,3]	6.31	9	70.1 %	No
NO_2	2006-2010	Annual	2.04	25	8.0%	No

[1] 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.
[2] In accordance with the Federal Register dated October 20, 2010; the high 2nd high is used.
[3] Listed in this table is the highest 1-hour period for any receptor at which the project was above the SIL. This did not include impacts from sources onto their own property.

Notably, IDEM determined that OVR would contribute to a 1-hour NOx NAAQS concentration of 597.8 ug/m3, which far exceeds the 188.6 ug/m3 standard, and the 24-hour PM2.5 concentrations of 49.3 ug/m3, which far exceeds the 35 ug/m3 standard. *Id.*

Despite these exceedences, IDEM nevertheless decided that the permit could be issued because, IDEM concluded, the highest contribution by OVR to a 1-hour NOx NAAQS violation was 4.46 ug/m3 and the highest contribution from OVR to a 24-hour PM2.5 NAAQS violation was 0.99 ug/m3. Ex. 4, TSD Appendix C at 6-7 of 17. IDEM determined that where the model was limited to determining only the concentrations at locations (i.e., receptors) where OVR's contribution to the total impact was greater than the "significant impact level," the total concentration for that subset of receptor points and times did not show any NAAQS violations. *Id.* at 6-8.[4] IDEM explained:

[4] IDEM's analysis was summarized as follows:

Table 5a[1]
1-Hour Culpability Analysis For NO_2

Highest Predicted 1-hour NO_2 Concentration from Cumulative Analysis ($\mu g/m^3$)							
Concentration (modeled + background)	Contribution from Modeled OVR to Total	Is the Total Concentration ≥ NAAQS of 188.6 µg/m3?	Is the OVR contribution ≥ SIL of 7.55 µg/m3?	Greatest OVR contribution to any violation of NAAQS	Highest Concentration with OVR > SIL	Highest concentration with background	Any Concentration > NAAQS with OVR > SIL?
597.8	0.0006	Yes	No	4.46	119.4	185.9	No

[1]This follows the recent U.S. EPA guidance in the March 23, 2010, memorandum on page 8 which explains how to determine significant contributions to modeled violations.

Table 5b[1]
24-Hour Culpability Analysis For $PM_{2.5}$

Highest Predicted 24-hour $PM_{2.5}$ Concentration from Cumulative Analysis ($\mu g/m^3$)							
Concentration (modeled + background)	Contribution from Modeled OVR to Total	Is the Total Concentration ≥ NAAQS of 35.0 µg/m3?	Is the OVR contribution ≥ SIL of 1.2 µg/m3?	Greatest OVR contribution to any violation of NAAQS	Highest Concentration with OVR > SIL	Highest concentration with background	Any Concentration > NAAQS with OVR > SIL?
49.2	0.055	Yes	No	0.99	5.20	32.2	No

[1]This follows the recent U.S. EPA guidance in the March 23, 2010, memorandum on page 8 which explains how to determine significant contributions to modeled violations.

> Even though the model predicts a NAAQS violation, OVR was not significant at the same receptor and time period. For $PM_{2.5}$ there was only one receptor at which OVR's impact averaged above the SIL. Therefore, OVR does not cause or contribute to a violation of the $PM_{2.5}$ NAAQS.

Id. at 7. That is, IDEM determined that even though OVR would contribute to a violation of the $PM_{2.5}$ NAAQS, OVR's contribution to that violation was not considered "significant" enough and was therefore ignored. Similarly for NO2, IDEM ignored the NAAQS violations to which OVR contributed where OVR's contributions were not considered "significant" enough. *Id.* at 6 of 17.

The Clean Air Act and the implementing regulations prohibit *any* contribution to any violation of the NAAQS or increment from new sources, not merely a contribution greater than a non-regulatory "significant" level. 42 U.S.C. § 7475(a)(3) ("No major emitting facility... may be constructed... unless... emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any ... (B) national ambient air quality standard..."); 40 C.F.R. 51.166(c), (d); 326 IAC 2-2-5(a).

IDEM's attempt to create such an exemption is thus unlawful, for two reasons.

First, the Clean Air Act and implementing regulations are rigid. They prohibit the OVR from causing or contributing to *any* NAAQS or increment violation, not just a subset of violations. 42 U.S.C. § 7475(a)(3); 326 IAC 2-2-5(a). There are no exceptions in the law and IDEM has no authority to waive the plain language of the Act or regulations. In this case, there is no exception that allows NAAQS violations as long as

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Ex 4, TSD Appx. C at 7.

the OVR's contributions to such violations are less than 7.55 $\mu g/m^3$ for 1-hour NO_2, or 1.2 $\mu g/m^3$ for 24-hour $PM_{2.5}$.

In its Response to Comments, IDEM asserts that it "does not agree that its use of significant impact levels ('SILs') in this analysis is not allowed under the Clean Air Act ('CAA') or Indiana law," but cites no provisions of the Act or the Indiana SIP that authorize it to ignore violations where the OVR's contribution is less than the so-called "SIL." *See* Ex. 5, Addendum to TSD at 10-16. At most, it cites secondary materials that also lack any reference to, much less a basis in, the statute or regulations. Ex. 5 at 11-12 of 87 (citing *In re CF&I Steel, L.P. dba EVRAZ Rocky Mountain Steel*, Petition No. VII-2011-01, Order (EPA Adm'r, May 31, 2012)). The Title V petition's order in *Rocky Mountain Steel* predates the D.C. Circuit's decision in *Sierra Club v. EPA*, 705 F.3d 458 (D.C. Cir. 2013), which rejected significant monitoring concentrations and remanded the significant impact level for $PM_{2.5}$. While the D.C. Circuit's decision deferred deciding whether a permitting agency could use a significant impact level to exempt NAAQS or increment violations, the court's logic for rejecting analogous significant monitoring concentrations applies to the use of significant impact levels. That is, EPA argued in the *Sierra Club* case that both significant monitoring concentrations and significant impact levels were allowed under the "de minimis" doctrine from *Alabama Power Co. v. Costle*, 636 F.2d 323 (D.C. Cir. 1979). *Sierra Club*, 705 F.3d at 461-62. The court rejected this de minimis argument, finding that 42 U.S.C. § 7475(e)(2) is "extraordinarily rigid" in its mandate that applicants undertake preconstruction monitoring. *Id.* at 467. The Court reasoned that by providing a single exception to the requirement to monitor, Congress

did not intend any additional exceptions based on *de minimis* rationales. *Id.* at 467-68. Similarly, here, because Congress provided one exception to the prohibition on a plant causing or contributing to any violation of a NAAQS in 42 U.S.C. § 7475(b), no other exemptions are appropriate.

Furthermore, in the *Sierra Club* litigation, EPA conceded that a significant impact level, or "SIL," should not be used to exempt the specific situation at issue here; it said that even an impact lower than the "SIL" would cause or contribute to an air quality problem, the permitting authority should address that violation. *Id.* at 463-64. This concession—that there are regulatory benefits to preventing NAAQS or increment violations even when a contribution is lower than the SIL—belies the *de minimis* basis for SILs. *Id.* at 462 (*de minimis* "implied authority does not apply to situations 'where the regulatory function does provide benefits, in the sense of furthering the regulatory objectives, but the agency concludes that the acknowledged benefits are exceeded by the costs'." (quoting *Alabama Power*, 636 F.2d at 361)). In fact, IDEM acknowledges that EPA has cautioned against using a SIL since the *Sierra Club* decision because the use of SILs cannot be "'inconsistent with the requirements of Section 165(a)(3) of the CAA'." *TSD Suppl.*, Ex. 5 at 15-16 (citing *Draft Guidance for PM2.5 Permit Modeling*, Stephen D. Page, Director, Office of Air Quality Planning & Standards, U.S. EPA, Mar. 3, 2013, at 11). Therefore, according to the EPA, "additional care should be taken by permitting authorities in how they apply those SILs so that the permitting record supports a conclusion that the source will not cause or contribute to a violation of the $PM_{2.5}$ NAAQS." *Id.*

Here, rather than taking care that the permit record shows that the source will not cause or contribute to a $PM_{2.5}$ NAAQS violation, the record demonstrates that the OVR facility will contribute to NAAQS violations, but that its contribution will be 0.99 µg/m3, which is lower than the "SIL" value of 1.2 µg/m^3. *See* TSD Addendum, Ex. 5, at 16 (*citing* TSD, Ex. 4, at Appendix C, Table 5b). Ignoring those violations based on extra-legal SIL exemptions is not supported by EPA's guidance that IDEM cites to and is explicitly prohibited by the Clean Air Act's language.

Second, even if the U.S. EPA and IDEM had the authority to waive requirements under the limited, *de minimis*, concept recognized by some federal case law, that concept is limited to instances where granting an exemption actually serves to "implement[] the legislative design." *Alabama Power Co. v. Costle*, 636 F.2d 323, 360 (D.C. Cir. 1979); *accord Public Citizen v. Young*, 831 F.2d 1108, 1116 (D.C. Cir. 1987). That determination must also be supported by the administrative record. Here, the record does not support any such finding.

The *de minimis* doctrine is narrow and is "[p]redicated on the notion that 'the Congress is always presumed to intend that pointless expenditures of effort be avoided,'" and that authority to avoid statutory coverage in such instances "'is inherent in most statutory schemes, by implication.'" *Shays v. FEC*, 414 F.3d 76, 113-114 (D.C. Cir. 2005) (quoting *Ass'n of Admin. Law Judges v. FLRA*, 397 F.3d 957, 962 (D.C. Cir. 2005)). Thus, only where regulation would be pointless can the doctrine apply to avoid

"futile application" of a statute, *New York v. EPA*, 443 F.3d 880, 888 (D.C. Cir. 2006),[5] where the burdens of regulation yield a gain of trivial or no value." *Shays*, 414 F.3d at 114 (quoting *Envtl. Def. Fund v. EPA* ("*EDF III*"), 82 F.3d 451, 466, *amended by* 92 F.3d 1209 (D.C. Cir. 1996)). To apply the *de minimis* exception, IDEM would have to analyze the "particular circumstances" of the OVR's impact here and bears the burden of showing that "matters are truly *de minimis*." *Alabama Power*, 636 F.2d at 360; *see also Shays*, 414 F.3d at 115. EPA confirmed that instruction in the Rocky Mountain Steel order (that IDEM's response to comments actually cites), which notes that the permit record must demonstrate that the SIL represents a *de minimis* impact below which regulation would provide no benefit furthering the underlying Clean Air Act's purpose. *Rocky Mountain Steel, supra*, Order at 15.

IDEM has not demonstrated that its theory of exempting OVR's contributions to violations of the NAAQS by less than a "significant impact level" implements Congress' legislative design in the Clean Air Act, nor that it covers only situations that provide a gain of only trivial value. IDEM points to OVR's purported minimal culpability as justification for the SIL, Ex. 5, TSD Addendum at 14-16, but this is circular. To justify the use of the SIL as the value below which air quality impacts are *de minimis* because they are "trivial," IDEM cannot rely on the fact that the facility's impacts are "well below the SIL" to deem them *de minimis*. TSD Suppl., Ex. 5, at 16. That is, IDEM's entire basis for asserting that the OVR's contribution to NAAQS violations is *de minimis*

[5] The D.C. Circuit's decision in *New York v. EPA*, does not determine the validity of the de minimis doctrine to the facts in that case because, as it recognized, EPA's defense of the replacement rule at issue was not based on the de minimis doctrine. 443 F.3d at 888.

is to compare them to the SIL, and the only basis to support the use of the SIL as the threshold for *de minimis* is to assert that the OVR's impacts are below them.

Furthermore, merely citing to EPA guidance purporting to set a SIL is insufficient. The only basis in EPA's guidance for the "SILs" at issue is a calculation of the percentage of the NAAQS that the SIL represents. But there is nothing in the record, or inherent, in any specific percentage of the NAAQS that makes an impact *de minimis*. The *de minimis* doctrine is not based on any percentage. Indeed, picking an arbitrary percentage as the threshold below which EPA or IDEM decree as too small to bother with is exactly the cost-benefit type policy decision that exceeds *de minimis* doctrine authority. *Sierra Club*, 705 F.3d at 469. Instead, the *de minimis* doctrine must be based on record evidence showing that prohibiting the air quality impacts caused by the plant, when added to background concentrations, would serve no regulatory function and provide no public health benefits. *Shays*, 414 F.3d at 114. [6]

In this case, IDEM would have to show through record evidence that preventing the OVR's contribution of 0.99 $\mu g/m^3$ towards a $PM_{2.5}$ NAAQS violation and 4.46 $\mu g/m^3$ towards a NO_2 violation a serves no regulatory purpose. IDEM's approach of merely stating that 0.99 $\mu g/m3$ is 2.8% of the 35 $\mu g/m^3$ $PM_{2.5}$ NAAQS, and 4.46 $\mu g/m^3$ is

[6] IDEM's reliance on 40 C.F.R. § 51.165(b)(2) for the 24-hour PM2.5 SIL of 1.2 $\mu g/m3$ is also misplaced. That regulation only applies to states when developing implementation plans for nonattainment areas. 40 C.F.R. § 51.165(a). It does not apply to states when issuing Prevention of Significant Deterioration permits under their implementation plans for attainment areas, including for the OVR plant here. Moreover, § 51.165(b)(2) provides that sources will be considered to cause or contribute to violations if they have impacts above the stated levels, not that impacts below those levels do not cause or contribute to a violation. *Sierra Club*, 705 F.3d at 465-66 (noting that 51.165(b)(2) does not exempt a source from the requirement to demonstrate that it does not cause or contribute to a violation if projected impacts are lower than the SIL, only that an impact above the SIL may be deemed to violate the NAAQS).

2.4% of the 188.6 $\mu g/m^3$ NO_2 NAAQS, does not make this showing.[7] This is particularly true where the evidence has increasingly showed the health effects of PM2.5 are multiple and serious, from cardiovascular disease[8,9] to low birth weight[10] to cancer[11,12] to, ultimately, mortality,[13] and that these risks increase as concentrations of PM2.5 increase, i.e. there is no safe level of PM2.5.[14] The regulatory objective of the PSD program is, of course, to protect the public from precisely these kinds of public health impacts, *see, e.g.*, 42 U.S.C. § 7470(1), and any deviations from that objective can be made after the sort of "careful evaluation of all the consequences of such a decision" that IDEM has not, to date, conducted, *id.* § 7470(5).

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[7] Left completely unanswered by IDEM's permit decision, and by the EPA guidance it cites, is why preventing contribution of 2.4% or 2.8% of the NAAQS value towards a NAAQS violation serves no regulatory objective and no benefits, while preventing a contribution of 3% or 4% would.

[8] Shah *et al.*, Global association of air pollution and heart failure: a systematic review and meta-analysis, *The Lancet* - 21 September 2013 (Vol. 382, Issue 9897, Pages 1039-1048).

[9] Adar SD, Sheppard L, Vedal S, Polak JF, Sampson PD, et al. (2013) Fine Particulate Air Pollution and the Progression of Carotid Intima-Medial Thickness: A Prospective Cohort Study from the Multi-Ethnic Study of Atherosclerosis and Air Pollution. *PLoS Med* 10(4).

[10] Pedersen et al., Ambient air pollution and low birthweight: a European cohort study (ESCAPE), *The Lancet Respiratory Medicine* - 1 November 2013 (Vol. 1, Issue 9, Pages 695-704)

[11] Raaschou-Nielsenet al., Air pollution and lung cancer incidence in 17 European cohorts: prospective analyses from the European Study of Cohorts for Air Pollution Effects (ESCAPE), T*he Lancet Oncology* - 1 August 2013 (Vol. 14, Issue 9, Pages 813-822).

[12] Loomis et al. on behalf of the International Agency for Research on Cancer Monograph Working Group IARC, The carcinogenicity of outdoor air pollution, *The Lancet Oncology* - 24 October 2013.

[13] Hoeck et al., Long-term air pollution exposure and cardio-respiratory mortality: a review, *Environmental Health* 2013, **12**:43; *see also* 75 Fed. Reg. 6827, 6830 (Feb. 11, 2010) ("The health effects associated with exposure to PM2.5 are significant. Epidemiological studies have shown a significant correlation between elevated PM2.5 levels and premature mortality.")

[14] *See* notes 9-13, *supra*; *see also U.S. v. Cinergy Corp.*, 618 F. Supp. 2d 942, 963 (S.D.Ind. 2009) ("Because the relationship between the does [sic]-response curve for PM2.5 and mortality is linear, any reduction in PM2.5 concentration would have a corresponding reduction in mortality rate.").

Therefore, because the OVR will contribute 4.46 $\mu g/m^3$ to violations of the 1-hour NOx NAAQS and 0.99 $\mu g/m3$ to violations of the 24-hour PM2.5 NAAQS, and because IDEM does not have the authority to exempt these contributions, the Administrator must object to the Permit. Moreover, even if IDEM did have the authority to exempt these violations based on the de minimis impact concept, IDEM has not made and cannot make a record showing that the impacts by OVR to the NAAQS violations here would be "trivial" and "futile," and would not further the regulatory objectives of the Clean Air Act. Again, the Administrator must object.

II. THE ADMINISTRATOR MUST OBJECT BECAUSE IDEM ILLEGALLY CONDUCTED AN INCREMENT ANALYSIS BASED ON CONTRIBUTIONS FROM OHIO VALLEY RESOURCES GREATER THAN A "SIGNIFICANT IMPACT LEVEL" INSTEAD OF ALL CONTRIBUTIONS FROM OHIO VALLEY RESOURCES, AND BECAUSE ITS DECISION IS NOT SUPPORTED BY RECORD EVIDENCE.

Similar to the NAAQS analysis discussed above, IDEM's increment analysis looked only at 24-hour $PM_{2.5}$ and annual NOx because IDEM unlawfully exempted OVR from an analysis for the other increments based on an unlawful "significant impact level" exemption. Ex. 4, TSD Appendix C at 4 (excluding CO, annual $PM_{2.5}$, PM10, and annual NO2 from further analysis based on "significant impact level" exemption). Moreover, even for the 24-hour PM2.5 and annual NOx increment analysis that IDEM did conduct, it only looked at receptor concentrations where the OVR had an impact greater than the "significant impact level." Ex. 4, TSD Appendix C at 8. There is no basis for limiting the analysis to only those receptors. Rather, the Clean Air Act and implementing regulations prohibit *any contribution to any violation* of a PSD increment. 42 U.S.C. § 7475(a)(3); 326 IAC 2-2-5(a)(2), 2-2-6(a). IDEM should have revised its increment analysis:

- To consider OVR's contribution to *all increment standards* and not limited to those pollutants exceeding the "significant impact level"
- To consider the OVR's contribution to *all increment concentrations*, not limited to those receptors where the OVR's contribution is higher than the "significant impact level"

In its response to comments, and similar to its attempt to exempt OVR's contributions to NAAQS violations, IDEM contends that it can rewrite the Clean Air

Act to prevent only an "increase in the potential emissions of a pollutant from a new source... [that] will cause a significant ambient impact (*i.e.*, equal or exceed the applicable significant ambient impact level...)." Ex. 5, TSD Addendum at 17 (emphasis added) (quoting New Source Review Workshop Manual (Draft 1990)).[15] The Clean Air Act, however, does not prohibit causing a "significant ambient impact" greater than the SIL—it prohibits causing or contributing any air pollution in excess of an increment. 42 U.S.C. § 7475(a)(3); 326 IAC 2-2-5(a)(2); *see also* 40 C.F.R. § 51.166(k)(2). There is no exception for a contribution that contributes an "insignificant" amount toward an increment violation. Nor are the SILs that IDEM used "insignificant." The 24-hour PM2.5 SIL that IDEM applied (1.2 µg/m3) represents a full 13.3% of the increment (9 µg/m3). In other words, IDEM limited its assessment of whether OVR would cause increment violations to only those times and locations where the OVR plant, alone, consumed more than 13% of the increment. This re-interpretation of the Clean Air Act to only prohibit contributions greater than 13% of the increment towards violations of the increment violates the Act, 42 U.S.C. § 7475(a)(3)(A), and the implementing regulations. 326 IAC 2-2-5(a)(2), 2-2-6; 40 C.F.R. § 51.166(k)(2).

As with NAAQS, discussed above, the Act is rigid and plain in its language. It prohibits contributions to any increment violations—not just those where the permittee's impact is above a percentage threshold to be determined by the permitting

[15] IDEM also discusses the fact that impacts from different sources at different receptor locations or times are not additive. *See* Ex. 5, TSD Addendum at 17-18. However, this is irrelevant because the issue here is not whether IDEM should treat impacts from different sources at different locations or times as cumulative. The air dispersion modeling conducted here was specific to each receptor location and time.

agency. Moreover, the Act provides a single exception for lower emitting sources. 42 U.S.C. § 7475(c). Where Congress provides a single, limited, exception, neither IDEM nor EPA can invent a new one. *Sierra Club*, 705 F.3d at 467-68.

Lastly, IDEM makes no attempt to demonstrate in the permit record that 1.2 $\mu g/m^3$ of $PM_{2.5}$ and 1 $\mu g/m^3$ of NO_2 constitute the concentrations below which a contribution to an increment violation is "pointless" and a "futile application" of the Clean Air Act, *New York*, 443 F.3d at 888,[16] providing regulation that yields only "a gain of trivial or no value." *Shays*, 414 F.3d at 114. As noted above, since there is no safe level of $PM_{2.5}$, it would be difficult for IDEM to show that a contribution of over 55% of the increment is futile and of no regulatory benefit. But here, IDEM made no attempt to do so on the record it created.

The Administrator should object.

III. THE ADMINISTRATOR MUST OBJECT BECAUSE IDEM UNLAWFULLY EXEMPTED THE FACILITY FROM PRECONSTRUCTION MONITORING.

The Clean Air Act and implementing regulations require that any facility receiving a preconstruction Prevention of Significant Deterioration (PSD) permit (including OVR here) must conduct a pre-application analysis of the air quality in the area to be impacted by the applicant's new or increased emissions. There are specific exceptions to this requirement provided by Congress, but anyone not meeting those specific exceptions must conduct sufficient preconstruction monitoring. The Clean Air Act is

[16] The D.C. Circuit's decision in *New York v. EPA* does not determine the validity of the de minimis doctrine to the facts in that case because, as it recognized, EPA's defense of the replacement rule at issue was not based on the de minimis doctrine. 443 F.3d at 888.

rigid and neither U.S. EPA nor IDEM has the authority to waive monitoring requirements. *See Sierra Club*, 705 F.3d 458.

For the draft and final permit for OVR, IDEM exempted the facility from the obligation to monitor preconstruction air quality for annual NO_2, 24-hour PM10, 24-hour $PM_{2.5}$, and carbon monoxide based on IDEM's determination that the OVR's impacts would be below a "de minimis level" for those pollutants. Ex. 4, TSD Appendix C at 5. There is no such *de minimis* level in the Clean Air Act. In fact, the D.C. Circuit recently rejected an attempt by U.S. EPA to graft such a *de minimis* level onto the Act through administrative fiat. *Sierra Club*, 705 F.3d at 466-69. The Court correctly found that there are no exceptions to the requirement to conduct preconstruction monitoring except those provided by Congress. *Id.*

IDEM attempts to distinguish the *Sierra Club* decision and claims it only applies to the 24-hour PM2.5 significant monitoring concentration specifically before the Court. But even as to the 24-hour $PM_{2.5}$ SMC that it acknowledges was vacated by the D.C. Circuit, IDEM refused to require preconstruction monitoring for OVR, stating that the January 22, 2013, ruling was issued *after* the draft OVR permit and thus the basis for the exemption was sufficient at the time of the draft permit. Ex. 5, TSD Addendum at 21. IDEM provides no basis for its illogical grandfathering argument. When a regulation is vacated, as the SIL was for $PM_{2.5}$, *Sierra Club*, 705 F.3d at 469, it has no legal effect during any period of time prior to its vacatur. *Env'tl Def. v. EPA*, 489 F.3d 1320, 1325 (D.C. Cir. 2007); *Envt'l Def. v. Leavitt*, 329 F.Supp. 55, 64 (D.D.C. 2004) ("When a court vacates an agency's rules, the vacatur restores the status quo before the invalid rule

took effect."); *see also In re E.Ky. Power Coop., Hugh L. Spurlock Gen. Station*, Petition No. IV-2008-4, Order (EPA Adm'r, Sept. 21, 2009) (objecting to Title V permit for facility lacking a case-by-case MACT determination that applied due to the vacatur of a regulation years after the draft and final permits).[17]

Furthermore, as a practical matter, the vacatur occurred prior to the public comment period and IDEM could have conducted a new air quality analysis without reliance on a vacated regulation. The Clean Air Act does not merely prohibit the submission of an incomplete application (although it does do that), it also requires the State to conduct an analysis of the air quality impacts and the existing air quality, and to make that data available to the public during the comment period. 42 U.S.C. § 7475(e). The permitting agency is then prohibited from issuing the permit unless the permittee will conduct any monitoring necessary and there is a determination that air quality standards are protected. 42 U.S.C. § 7475(a)(3), (7). These requirements relate to preconstruction monitoring but post-date the D.C. Circuit's vacatur of the SMC rule for $PM_{2.5}$. *See e.g.*, Letter from Genevieve Damico, U.S. EPA Region 5 Air Permits Section Chief, to Mary Ann Dolehaunty, Michigan DEQ, (March 28, 2013) (noting that "[i]n light of the Court's decision [in Sierra Club v. EPA], we believe that permits issued on the basis of the vacated SMC provisions (or state regulations based on those provisions) would be inconsistent with the Clean Air Act..."), *available at*

[17] In fact, even if the Supreme Court's reasoning from *Harper v. Virginia Dept. of Taxation*, 509 U.S. 86, 97 (1993), applied, a permit action that has not even progressed to the public comment period, much less to the final permit and through the time for administrative and judicial review, is a case "still open on direct review" and there is no issue with "retroactive" application of the D.C. Circuit's decision.

http://yosemite.epa.gov/r5/r5ard.nsf/2134f82000aa062c86257577004df4d7/5e63874d9cf3422f86257b4000765207/$FILE/Midland%20Cogeneration%20Venture.pdf. There is no lawful reason for IDEM to insist on applying a vacated rule to exempt OVR from conducting the pre-construction air quality monitoring required by the Clean Air Act.

IDEM then switches tactics, claiming it did not actually waive preconstruction monitoring, but instead substituted it with 3 years of preexisting ambient monitoring data. Ex. 5, TSD Addendum at 22. But, there are problems with the use of those substitute regional monitoring data, as addressed below. In any event, IDEM only utilized such data for annual NO_2 and 24-hour $PM_{2.5}$, see Ex. 5, TSD Add. at 23, not "each pollutant subject to regulation under this chapter which will be emitted from" OVR. 42 U.S.C. § 7475(e)(1).

IDEM should have required the facility to conduct full preconstruction monitoring, including for those pollutants in Table 3 on page 5 of TSD Appendix C, Ex. 4. It must also renotice the draft permit with the "results of such analysis available at the time of the public hearing on the application for such permit" as required by 42 U.S.C. § 7475(e)(2).

The Administrator must object.

IV. THE ADMINISTRATOR MUST OBJECT BECAUSE EXISTING MONITOR BACKGROUND CONCENTRATIONS USED BY IDEM DO NOT MEET THE LEGAL MINIMUM REQUIREMENTS.

Before IDEM can issue any PSD permit, including the permit for OVR at issue here, the applicant facility must demonstrate to IDEM that the facility will comply with the applicable NAAQS "based upon the total estimated air quality, which is the sum of

the ambient estimates resulting from existing sources of air pollution (modeled source impacts plus measured background concentrations) and the modeled ambient impact caused by the applicant's proposed emissions increase... and associated growth." *NSR Manual* at C.3.

Pursuant to the Clean Air Act, an applicant must "agree[] to conduct such monitoring as may be necessary to determine the effect which emissions from any such facility may have, or is having, on air quality in any area which may be affected by emissions from such source." 42 U.S.C. § 7475(a)(7). More specifically, at a minimum, the preconstruction PSD review must "be preceded by an analysis... by the State... or by the major emitting facility applying for such permit, of the ambient air quality at the proposed site and in areas which may be affected..." 42 U.S.C. § 7475(e)(1). This analysis "shall include continuous air quality monitoring data gathered for purposes of determining whether emissions from such facility will exceed the [NAAQS or TSD increment]." 42 U.S.C.§ 7475(e)(2) (emphasis added). The Act specifies that this data "shall be gathered over a period of one calendar year preceding the date of application for a permit under this part unless the State... determines that a complete and adequate analysis for such purposes may be accomplished in a shorter period." *Id.* The implementing regulations require the same. 40 C.F.R. § 51.166(m)(i); 326 IAC 2-2-4(c)(3). Thus, an applicant must conduct site-specific monitoring for a year (or at least 4 months with prior approval).

The *NSR Manual* further provides that:

> It is generally preferable to use data collected within the area of concern; however, the possibility of using measured concentrations from representative "regional" sites may be discussed with the permitting agency. The *PSD Monitoring Guideline* provides additional guidance on the use of such regional sites.
>
> Once a determination is made by the permitting agency that ambient monitoring data must be submitted as part of the PSD application, the requirement can be satisfied in one of two ways. First, under certain conditions, the applicant may use existing ambient data. To be acceptable, such data must be judged by the permitting agency to be representative of the air quality for the area in which the proposed project would construct and operate. Although a State or local agency may have monitored air quality for several years, the data collected by such efforts may not necessarily be adequate for the preconstruction analysis required under PSD. In determining the representativeness of any existing data, the applicant and the permitting agency must consider the following critical items (described further in the *PSD Monitoring Guideline)*:
>
> ! *monitor location;*
>
> ! *quality of the data;* and
>
> ! *currentness of the data.*
>
> If existing data are not available, or they are judged not to be representative, then the applicant must proceed to establish a site-specific monitoring network.

U.S. EPA, *New Source Review Workshop Manual* (October 1990) at C.18-.19 ("NSR Manual"). The Administrator has previously held that "EPA allows substitution of existing representative data in lieu of having the source generate its own preconstruction monitoring data, *provided* these data meet the criteria in the 'Ambient Monitoring Guidelines for the Prevention of Significant Deterioration'..." *In re Hibbing Taconite Co.*, 2 E.A.D. 838, 850 (Adm'r 1989) (emphasis added); *see also In re Northern*

Michigan University Ripley Heating Plant, 14 E.A.D. __, PSD 08-02, Slip Op. at 62-63 (EAB Feb. 18, 2009) (remanding for a determination of whether the preconstruction monitoring complied with regulations and EPA guidance). Indiana regulations also require that all monitoring used for PSD purposes comply with the Guidelines. 326 IAC 2-2-4(c)(7).

The *PSD Monitoring Guidelines*, referenced in the *NSR Manual*, in EAB decisions, and in 326 IAC 2-2-4(c)(7) provide that monitoring data from off-site monitors to be used if those data represent the locations of:

> (a) maximum concentration increase from the proposed facility;
> (b) maximum air pollutant concentration from existing sources; and
> (c) maximum combined impact area (existing sources plus proposed facility).

Ambient Monitoring Guidelines § 2.4.1, at 6-8; *Hibbing Taconite*, 2 E.A.D. at 850-51. Where the monitors are not located within the area modeled for the permit decision, regional monitoring data can only be used in certain limited situations. *Id.* The *Monitoring Guidelines* provide three types of situations and the respective limitations on use of regional monitors in each such situation. *Id.* These are generally as follows:

Situation	Conditions and Limits on use of Regional Monitoring Data
Case I: proposed source will be constructed "in an area that is generally free from the impact of other point sources and area sources associated with human activity"	Regional monitoring data may be used but the site of the monitor must be "similar in nature to the impact area... [and] characteristic of air quality across a broad region." Additionally, the use of these regional monitors are intended to be limited to "relatively remote areas" and not in "areas of multisource emission or areas of complex terrain."
Case II: proposed source will be constructed in a multisource area and "basically flat terrain"	Regional monitoring data may be used only if either of the following is met: 1) "The existing monitor is within 10 km of the proposed emissions; or 2) The existing monitor is within or not farther than 1 km

	away from either the area(s) of the maximum air pollutant concentration from existing sources or the area(s) of the combined maximum impact from existing and proposed sources."
Case III: if the proposed construction will be in an area of multisource emissions and in areas of complex terrain, aerodynamic downwash complications, or land/water interface situations	Regional (existing) data can only be used if collected: 1) "at the modeled location(s) of the maximum air pollution concentration from existing sources; 2) At the location(s) of the maximum concentration increase from the proposed construction, and 3) At the location(s) of the maximum impact area.

Additionally, the data used from regional monitors must be of sufficient quality. The *Monitoring Guidelines* provide some minimum requirements in section 2.4.2. Additional quality requirements are set forth in 40 C.F.R. part 58, Appendix A (formerly Appendix B).[18] Among the minimum data requirements are minimum data recovery, continuous monitoring, and minimum quality control practices and documentation. *Monitoring Guidelines* § 2.4.2; 40 C.F.R. part 58, App. A.

Lastly, the data used for PSD permitting must be current, which generally means that it must have been collected in a 3-year period preceding the application, provided that they are still representative of current conditions. *Monitoring Guidelines* § 2.4.3.

In IDEM's TSD, the agency purports to take background air quality data "from representative monitoring stations." Ex. 4, TSD Appendix C at 5. There was no discussion, nor any record evidence, demonstrating that the monitors and data that IDEM used as background comply with the minimum requirements of the Guidelines. Specifically, because the location of the OVR facility will be a multi-source area, and complex terrain, the existing monitor locations would have to be located at the location of the highest modeled concentration from existing sources, the location of the

[18] The applicable regulations require compliance with 40 C.F.R. part 58, Appendix B (now Appendix A) for all monitoring conducted for PSD permitting. *See* 40 C.F.R. § 52.21(m)(3).

maximum modeled impacts from the OVR facility and the location of the maximum combined impact from OVR and existing sources. Even if the area around the facility was not complex terrain, the existing monitors must be located within 10 km of the site and no more than 1 km from the highest modeled concentration from existing sources or from the location of the highest modeled concentration from existing sources plus the impacts from OVR.

IDEM attempted to shore up its monitor choices in the TSD Addendum, to no avail. Ex. 5, TSD Addendum at 25-29. Not only was this explanation not previously available to the public, it is wrong. The selected monitors still do not meet the *Guidelines*: Dale, Indiana, the location of the $PM_{2.5}$ monitor IDEM used is 29 km from the proposed OVR site. The location of the 1-hour and annual NOx monitor – Owensboro, Kentucky – is over 25 km. It is not possible for these locations to meet the minimum location criteria of the *Guidelines*. In fact, the modeling conducted and included in the record show the points of maximum impact from the facility to be much closer to the plant than 25-29 kW.

Contrary to IDEM's response to comments, the Guidelines are mandatory and do not provide "significant discretion" to the permitting authority to waive the requirements that substituted regional monitoring data be collected from specific locations of maximum impact, be current, and be of minimum data quality. Ex. 5, TSD Addendum at 25. Nor is there any provision in law for a presumption that any monitor within 50 kilometers satisfies all criteria for a substitute regional monitor. *Id.* at 26. To the extent the applicant attempted to use substituted regional monitoring data for site-

specific monitoring data, IDEM was required to ensure that the substitute regional data meet all location, quality and currentness criteria established by the mandatory Guidelines. And, because the public is entitled to public notice and comment on the correct air quality analysis—including the correct background concentrations based on monitors that meet the Guidelines' requirements, 42 U.S.C. § 7475(e)(2)—IDEM must re-notice the permit for public comment after this monitoring is collected.

The Administrator must object.

V. THE ADMINISTRATOR MUST OBJECT BECAUSE COMPLIANCE AVERAGING TIMES IN THE FINAL PERMIT ARE LONGER THAN THE APPLICABLE AVERAGING TIME OF THE NAAQS.

In the draft and final permit, IDEM's air quality analysis assumed that the emission sources at the OVR facility would never exceed certain hourly emission rates. The air quality modeling conclusions—that the facility will not cause violations of the NAAQS or increments at permitted emission rates—assumed that the emission sources at the plant would never exceed the modeling one-hour emission rates. However, the permit does not limit the facility's emissions based on one-hour averaging times. This allows emissions during any particular hour to exceed the emission rates assumed in IDEM's dispersion modeling.

According to U.S. EPA guidance, the *Guidelines* on air quality modeling, and good air quality permitting practices, the permit limits must match the inputs assumed in the dispersion model—including not only the emission rate, but also the averaging period. Or, put another way, air quality modeling results must demonstrate that air quality will be protected if the facility emits at or below the emission rates assumed in the model. In

the case of 1-hour standards, with assumed maximum hourly mass emission rates input to the model, the model results showing air quality compliance are only reliable if the source will not emit more than the assumed maximum rate during any hour. If the facility can emit during some hours at a rate that exceeds the assumed maximum 1-hour emission rate, there is no assurance that air quality is protected during those higher emitting hours.

Emission rates can fluctuate and, therefore, averages over time do not necessarily represent the maximum emission rate during a shorter period of time. This is especially problematic when emission limits are averaged over periods longer than the short-term air quality standards that those limits are supposed to protect. Therefore, the Modeling Guidelines require that the maximum allowable emission rate be used to model for PSD permitting. 40 C.F.R. pt. 51, Appx. W Table 8-2. The Guidelines further require that emission limits be set at the maximum emission rate that was modeled for the most stringent air quality standard. 40 C.F.R. pt. 51, Appx. W § 10.2.3.1.a ("Emission limits should be based on concentration estimates for the averaging time that results in the most stringent control requirements."). EPA's *NSR Manual* similarly requires that NAAQS compliance demonstration modeling be conducted at the maximum allowable operating conditions over the averaging period represented in the NAAQS. *NSR Manual* at C.45; *see also e.g., In re Northern Michigan University*, 14 E.A.D. __, PSD Appeal No. 08-02, Slip Op. at 50-51, 54-55 (EAB Feb 18, 2009).

EPA guidance related to the new 1-hour NAAQS again confirms this requirement and specifically directs permitting authorities implementing the federal program to establish limits over a 1-hour period:

> Because compliance with the new SO_2 NAAQS must be demonstrated on the basis of a 1-hour averaging period, the reviewing authority should ensure that the source's PSD permit defines a maximum allowable hourly emission limitation for SO_2... Hourly limits are important because they are the foundation of the air quality based emissions demonstration relative to the 1-hour SO2 NAAQS.

Memorandum from Anna Marie Wood, USEPA AQPS, Re: *General Guidance for Implementing the 1-hour SO2 National Ambient Air Quality Standard in Prevention of Significant Deterioration Permits*, at p. 7 (August 23, 2012), *available at* http://www.epa.gov/region7/air/nsr/nsrmemos/appwso2.pdf (emphasis added)[19].

Here, IDEM has not limited NOx emissions on a one-hour average, and provides instead for the averaging of emissions over several hours or more. At the same time, the modeling analysis in support of the permit assumed that these limits were actually maximum one hour limits. For example, permit section D.1.4(f) limits NOx emissions from the four boilers to 20.40 lb/MMCF on a 24-hour average. Ex. 1, § D.1.4(f). However, IDEM's air quality analysis assumed that the boilers would not exceed a rate of 20.40 lb/MMCF during any single hour. By failing to ensure that the NOx emission limit matches the modeling assumptions—especially for assuring compliance with the one-hour NOx NAAQS—IDEM cannot ensure that the NAAQS are protected because

[19] This guidance applies equally to the 1-hour SO2 and 1-hour NOx NAAQS. *See In re Mississippi Lime Co.*, 15 EAD __, Case No. PSD 11-01, Slip Op. at 43 (EAB August 9, 2011).

during some hours the boilers' emissions can greatly exceed 20.40 lb/MMCF due to the facility's ability to average 24 hours' emissions to determine compliance with the permit limit. Similarly, the emission limit for the reformer in section D.2.4(a)(5) is based on a 30-day average; sections D.2.4.(c)(7) and (8) are based on a three hour average; sections D.3.4(a)(5), (b)(7) and (8), and (c)(7) and (8) are based on a 3-hour average; section D.4.4(a)(2) on a 30-day average; section D.4.4.(d)(7) and (8) on a 3-hour basis; section D.4.4.(i)(2) and (3) on an annual average of monthly data; and section D.5.4(b)(4) on a 3-hour basis. *See* Ex. 1.

In its response to comments, IDEM does not deny that it averaged emissions over periods of time that greatly exceed the applicable NAAQS, but it claimed it had discretion to do so because the NAAQS are merely "probabilistic" and "statistical," that periodic exceedences of the NAAQS are in fact permissible, that the Agency may use longer averaging periods if they are believed to represent conditions that are "continuous" and "frequent," and that EPA allows IDEM "to ignore intermittent emissions sources" and conditions that may cause or contribute to an exceedence of the NAAQS. Ex. 5, TSD Addendum at 35-39. Thus, it says, the "statistical form of the 1-hour NO2 NAAQS" is protected. *Id.* at 37. But IDEM's premise that the 1-hour standards are "probabilistic" is insufficient to support its conclusion that the NAAQS are protected by the current permit limits.

There is no basis in the record for IDEM's conclusion that because compliance with the 1-hour standard is based on the average of the 98th percentile maximum daily 1-hour values over three years, that compliance is assured by the actual limits IDEM

included in the permit. IDEM posits a theory that because of the way that NAAQS compliance is determined for the 1-hour NO_2 NAAQS, some unspecified hours may be able to exceed the maximum hourly rate IDEM's modeling assumed by some unspecified amount, without causing a violation of the standard. But, there is no basis that the 3-hour, 24-hour, 30-day and annual emission limits the permit contains correlate to such unspecified number, frequency, and distribution of such hours. Put another way, even granting that there may be 7 to 168 one-hour values that exceed the 188.6 µg/m3 NAAQS standard without changing the design value, Ex. 5 at 35, there is no record evidence to support IDEM's ultimate conclusion that therefore the facility can be allowed to emit any level during many hours so long as, when averaged with other lower-emitting hours, the plant complies with 3-hour, 24-hour, 30-day or annual emission limits included in the permit.[20] The record only demonstrates—through modeling of an assumed maximum one-hour emission rate—that air quality is protected <u>if</u> emissions are kept at or below that mass emission rate each and every hour. If there are hours in which emissions exceed the assumed maximum rate used in the model, which is what long averaging period emission limits allow, the record does not identify when they can occur, how frequently they can occur, what the maximum emission during such hours could be, or that the permit limits as written ensure that higher emissions do not occur too frequently or at too high a rate.

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[20] IDEM's reliance on guidance specific to emergency generators that run infrequently, if ever, Ex. 5 at 35-36, to support a conclusion that therefore emission limits for frequently-operated emission units can allow large swings between high and low hours of emissions through long averaging periods for a significant number of high-emitting hours stretches EPA's emergency generator guidance far beyond its legal and factual moorings.

IDEM's theory that there could be hours when emissions can exceed the modeled maximum rate without causing 1-hour NAAQS violations is only true in so far as it goes. IDEM never identified in the record when those hours can occur, and how frequently, and cannot demonstrate in the record that the emission limits it established ensure that higher emissions do not happen during other hours or more frequently, and therefore cause NAAQS violations. IDEM's argument remains theoretical; it does not support the conclusion that as long as OVR complies with the permit limits the plant's emissions cannot and will not cause NAAQS violations. That is why the Modeling Guidelines and EPA guidance documents cited above, as well as numerous EPA comment letters, instruct that either modeling be conducted based on the worst case hourly emissions that could occur under the proposed permit limits, or that the maximum hourly mass emissions used for air quality modeling be established as enforceable maximum hourly emission rates. *E.g.*, In re Mississippi Lime Co., PSD Appeal No. 11-01 at 3, 44 __ E.A.D. __ (Aug. 9, 2011) (finding agency's decision to base permit limits for 1-hour NOx and SO2 NAAQS based on averages in excess of one hour was unsupported "in light of the EPA directive to include emission limitations based on one-hour averages"),[21] Letter from Genevieve Damico, EPA Region 5 Air Permits Section Chief, to Don Smith, Minn. Pollution Control Agency (March 27, 2012) ("Permit limits for SO2 for EU056 are on a 30 day rolling average. [The applicant] has performed air quality modeling that indicates compliance with the 1-hour SO2... NAAQS.

[21] *Available at* http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Filings%20By%20Appeal%20Number/8B66074F309B507C852578E70072E50F/$File/Remand%20Order...24.pdf

Emission rates averaged over a period longer than one hour are not protective of the 1-hour NAAQS. A permit condition that ensures the 1-hour standard is protected should be added to the permit."), *available at* http://yosemite.epa.gov/r5/r5ard.nsf/2134f82000aa062c86257577004df4d7/3ac002103ac085ea862579d7007c882d/$FILE/Koda.pdf; Letter from Genevieve Damico, EPA Region 5, to Joe Henderson, Minn. Pollution Control Agency (Feb. 23, 2012) ("Throughout the permit, limits for sulfur dioxide and nitrogen oxides are on a lb/ton of liquid steel produced and lb/hour basis using a 3-hour average. Due to the 1 hour standards for sulfur dioxide and nitrogen oxides, limits for these pollutants should be on a similar short term basis (i.e., on a 1 hour basis)."), *available at* http://yosemite.epa.gov/r5/r5ard.nsf/2134f82000aa062c86257577004df4d7/9b9ff950e6dad38d862579ad0080f8a1/$FILE/Essar%20Steel.pdf; Letter from Genevieve Damico, EPA Region 5, to Mary Ann Dolehanty, Mich. Dept. Envtl. Quality (Feb. 1, 2012) ("Compliance with emission limits used to model for short-term [NAAQS] should be determined based on averaging times consistent with the NAAQS. The SO2 and NO2 averaging times of 24-hour and annual, respectively, are much longer than the 1-hour averaging for the NAAQS and consequently, may not be protective of the standards."), *available at* http://yosemite.epa.gov/r5/r5ard.nsf/2134f82000aa062c86257577004df4d7/c97ea76bf15fdf3d86257998007891e8/$FILE/DTE.pdf.

The permit, as issued, does not satisfy the requirements of the PSD program and the Modeling Guidelines as interpreted and implemented by EPA. The record does not support IDEM's conclusion that the long averaging periods included in the NOx

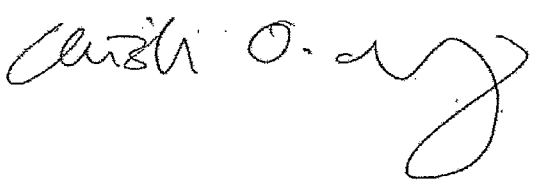
emission limits protect the short-term 1-hour NOx NAAQS. IDEM should have either included emission limits based on 1-hour mass emission limits or conducted sufficient air quality dispersion models based on the highest peak hour emission rate that the facility can emit during multiple-hour averaging periods to demonstrate the limits are protective of air quality.

The Administrator must object.

CONCLUSION

For the above reasons, the Permit fails to comply with the Clean Air Act and all applicable requirements, and the Administrator must object.

Respectfully submitted,



Christa O. Westerberg

On behalf of:
SIERRA CLUB
SPENCER COUNTY CITIZENS FOR QUALITY OF LIFE
VALLEY WATCH, INC.

DATED: November 20, 2013

Service List

Petition Requesting that the Administrator Object to the Issuance of the Title V Operating Permit for Ohio Valley Resources

November 20, 2013

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