

BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:)
)
)
IDEM New Source Construction and Part 70)
Operating Permit No. T017-42728-00056)
)
For WSP Energy Corporation) Permit No. T017-42728-00056
)
)
Prepared by the Indiana Department of)
Environmental Management)
)
)
)
)

**PETITION TO OBJECT TO THE NEW SOURCE CONSTRUCTION AND PART 70
OPERATING PERMIT FOR WAE LZ SUSTAINABLE PRODUCTS, LLC**

Waelz Sustainable Products, LLC (“WSP”) is proposing to construct the first “Waelz kilns” in Indiana to process electric arc furnace dust and convert it into zinc oxide and an iron product. This process will emit hundreds of tons of particulate matter containing numerous toxic metals and other pollutants onto its neighbors and add to an existing burden on nearby environmental justice neighborhoods.

Cass County Citizens Coalition (“Petitioner”) petitions the Administrator of the U.S. Environmental Protection Agency (“EPA”) 42 U.S.C. § 7661d(b)(2) to object to the New Source Construction and Part 70 Operating Permit (“Permit”), issued to WSP on June 18, 2021, by the Indiana Department of Environmental Management (“IDEM”).¹ This Petition creates a case of first impression for EPA with respect to the proper categorization of a Waelz kiln for Prevention of Significant Deterioration (“PSD”) purposes.

EPA must object to the Permit because EPA is obligated to ensure that Indiana implements its New Source Review (NSR) construction and Title V operating permit programs in accordance with the Clean Air Act and Indiana’s federally approved State Implementation Plan (“Indiana Plan”). The WSP Permit violates the Clean Air Act and Indiana Plan due to the following deficiencies identified in EPA’s and Petitioner’s comments:

- Failure to properly categorize WSP as a “secondary metal production plant” that triggers Prevention of Significant Deterioration (PSD) requirements, which resulted in issuance of an invalid synthetic minor permit;
- Inadequate stack testing requirements;
- Insufficient emissions monitoring and reporting requirements; and
- Use of unreliable emission factors and calculation methodologies.

¹ Permit, Exhibit A.

The Permit is also invalid because it violated public participation requirements.

I. Factual Background

The Permit

WSP proposes to construct a manufacturing plant with two Waelz kilns in Cass County, Indiana to produce zinc oxide and a Waelz iron product from electric arc furnace dust generated from steel mini-mills (“Plant”).² WSP applied to IDEM for a “New Source Construction Title V Permit” on March 30, 2020.³ Cass County is classified attainment or unclassifiable for all criteria pollutants.⁴ According to the WSP Permit Application prepared by Ramboll (Permit Application), the Plant would emit hundreds of tons of particulate matter, containing toxic metals, and other criteria pollutants each year.⁵ In its application, WSP took the position that the Plant would require only a “Minor New Source Construction” permit because it did not fall within one of the 28 categories of sources for which the PSD permitting threshold for a major stationary source is 100 tons per year of a criteria pollutant and because the potential to emit emissions fell below the 250 tons per year permitting threshold for other major stationary sources.⁶ This presumption resulted in a “synthetic minor” New Source Construction permit rather than a major NSR permit.⁷

IDEM issued a draft “New Source Construction and Part 70 Operating Permit,” on November 16, 2020 (Draft Permit), with a public comment period to end December 21, 2020, and a public hearing scheduled for December 17, 2020.⁸ In the draft permit, IDEM stated that WSP was a “Minor Source under PSD” and “Not 1 of 28 Categories.”⁹ IDEM received dozens of comments from the public, including Petitioner, and from EPA, to which it responded in a 257 page Addendum to the Technical Support Document (“Permit ATSD”).¹⁰ On May 3, 2021, IDEM sent the Permit to EPA for its review. EPA did not object to the Permit during its 45-day statutory review period, which ended June 17, 2021. On June 18, 2021, IDEM issued WSP the final New Source Construction and Part 70 Operating Permit.

Petitioner

Cass County Citizens Coalition (“CCCC”) is an association of people living in and around Logansport, Indiana. The coalition’s mission is to initiate and coordinate citizen action directed toward greater governmental transparency and accountability and improving the quality of life for all citizens of Cass County, Indiana.

² Permit, Section A.1.

³ Permit Application, Exhibit. B.

⁴ https://www.ecfr.gov/cgi-bin/text-idx?SID=eed1ca0ec6d31179af79405ddffaae05&mc=true&node=se40.18.81_1315&rgn=div8.

⁵ Permit Application., Table 1.

⁶ Permit Application, p. 1, 8-9; *see also* 40 C.F.R. § 51.166(b)(1)(i); 326 I.A.C. §2-2-1(ff).

⁷ *See, e.g.*, EPA, Office of the Inspector General, “EPA Should Conduct More Oversight of Synthetic Minor-Source Permitting to Assure Permits Adhere to EPA Guidance,” Report No. 21-P-0175, pp. 1-3 (July 8, 2021)

(<https://www.epa.gov/office-inspector-general/report-epa-should-conduct-more-oversight-synthetic-minor-source-permitting>).

⁸ Permit, Amendment to Technical Support Document (Permit ATSD), p.1.

⁹ Draft Permit, p. 6, Exhibit. C.

¹⁰ Permit ATSD, p.1.

The Plant would be located at 3440 West County Road 300 South, Logansport, Indiana. Logansport is a small city with a population of 17,584 in 2019, a per capita income of \$19,827 and a 20% poverty rate.¹¹ According to EPA's EJ Screen tool, within 5 miles of the Plant there are two Logansport neighborhoods that are in the 82nd and 84th percentile nationally on EPA's "EJ Demographic Index" and six neighborhoods ranging from the 72nd to 77th percentile nationally on the EJ Demographic Index.¹² These include three neighborhoods in the 70-80th percentile nationally with people of color, two in the 95th-100th percentile nationally of low income, and three in the 90th-95th percentile of low income. Despite being a small town, it has been impacted by heavy industry. In the radius of 3 miles around Logansport, the EJ Screen ozone indicator is in the 66th percentile nationally, the PM2.5 indicator is in the 51st percentile nationally, the lead paint indicator is in the 87th percentile, the hazardous waste proximity indicator is in the 64th percentile, the Superfund proximity 95th percentile, traffic 57th percentile, Risk Management Plan proximity 91st percentile, and wastewater discharge 79th percentile.¹³

Petitioner has members who live, work, recreate, and breathe in Cass County and who would be aggrieved and adversely affected by emissions from the Plant that the Permit authorizes. The potential impacts from this Plant on the health and quality of life of Petitioner's members are demonstrated by a recent Agency for Toxic Substances and Disease Registry (ATSDR) report on a Waelz kiln operated by American Zinc Recycling (AZR) in Palmerton, Pennsylvania:

Based on the available modeled and monitored data, ATSDR concludes that a public health hazard is likely for young children and/or pregnant women living within 3 miles (around 15,840 feet based on AERMOD modeling results) of the American Zinc Recycling facility in Palmerton from exposures to lead in outdoor air.¹⁴

In Cass County, Petitioner has members who live within the zone of impact of the proposed Plant.¹⁵ For example, Melissa Harrison lives one mile from the proposed plant with her wife, father-in-law and five grandchildren, some of whom have special needs.¹⁶ Ms. Harrison is concerned about the impact of more pollution on her grandchildren's health and on her property value since they already must contend with truck traffic, dirt, and noise.¹⁷ Her grandchildren play baseball and attend school within four miles of the proposed Plant.¹⁸ Ms. Harrison's family is low income and could not afford to move to avoid the impacts of the Plant.¹⁹

LeRoy Miller lives within one mile of the proposed Plant and is concerned about the effect of toxic emissions on his health.²⁰ Mr. Miller has an impaired respiratory system and has been diagnosed with Chronic Obstructive Pulmonary Disease and Emphysema, is currently being treated for pulmonary embolism, and has been confirmed with post-Covid interstitial lung disease with

¹¹ <https://www.census.gov/quickfacts/logansportcityindiana>

¹² <https://ejscreen.epa.gov/mapper/>

¹³ https://ejscreen.epa.gov/mapper/ejscreen_SOE.aspx.

¹⁴ Letter Health Consultation, American Zinc Recycling, Palmerton, PA, U.S. Department of Health, ATSDR (July 31, 2018), Exhibit. D; Permit, ATSD, Comments of City of Logansport, pdf p. 727.

¹⁵ Permit ATSD, Comments of Dr. Indra Frank, pp. 177-183.

¹⁶ Harrison Aff. ¶¶ 1, 3, 5, Exhibit. E.

¹⁷ *Id.* ¶¶ 6, 9.

¹⁸ *Id.* ¶8.

¹⁹ *Id.* ¶7, 9.

²⁰ Miller Aff. ¶¶ 3, 7, Exhibit E.

fibrosis.²¹ Mr. Miller is also concerned about the impact of the Plant on the property value of his home and the quality of his home garden produce.²²

Patrick Kleckner lives within 1.5 miles of the proposed Plant where he raised three children.²³ Mr. Kleckner and his family regularly hunt, hike and recreate outdoors on his property.²⁴ He is concerned about the health impacts of the additional emissions from the Plant on him and his family, especially the lead and mercury emissions.²⁵ Mr. Kleckner also owns 15 rental units in Logansport and is concerned about the loss of property value of all his properties due to the Plant, based on a review he has conducted of other Waelz plants around the country.²⁶

Patricia Razer lives in Clymers, Indiana, less than 1 mile from the proposed Plant with her son, daughter-in-law and two minor grandchildren, one of whom has allergies and ADHD. She has lived there for 24 years.²⁷ Ms. Razer has health issues including Asthma and heart problems.²⁸ She fears that the heavy metals such as lead, mercury, cadmium, zinc, and chromium that will be released into the air and soil from the Plant will exacerbate the health risks to herself and her family.²⁹ She also fears that her property value has decreased due to the proposed Plant based on an appraisal conducted in 2020 and feedback from realtors.³⁰

Peggy Jo Billiard is 69 years old and has lived in Logansport her entire life.³¹ Ms. Billiard and her husband own a home 12 miles northeast of the proposed Plant with farmland, a garden, and a rental house, plus a rental house within 6 miles of the Plant.³² Ms. Billiard has been diagnosed with heavy metal toxicity, including metals similar to that which will be emitted from the WSP facility. After chelation, she still has severe health effects with her digestive and immune systems. She previously had four miscarriages, which, according to the CDC, can be related to heavy metal toxicity.³³ Her husband was recently diagnosed with early onset Alzheimer's Disease. Lead, cadmium, and manganese are neurotoxicants that contribute to Alzheimer's disease. His doctor requires that they walk at least thirty minutes a day, but they are concerned about the quality of their air. They are also concerned about eating the produce from their garden. Ms. Billiard believes the WSP facility will only add to the toxins already present in their air and land.³⁴

II. Statutory and Regulatory Background

New Source Review (NSR) Construction Requirements

The Clean Air Act includes three preconstruction permitting programs for new air emission

²¹ *Id.* ¶ 13.

²² *Id.* ¶9, 15.

²³ Kleckner Aff. ¶ 1, 2, Exhibit E.

²⁴ *Id.* ¶2.

²⁵ *Id.* ¶4, 5

²⁶ *Id.* ¶ 6, 7.

²⁷ Razer Aff. ¶¶ 1, 2, Exhibit E.

²⁸ *Id.* ¶2.

²⁹ *Id.*

³⁰ *Id.* ¶3.

³¹ Billiard Aff. ¶1, Exhibit E.

³² *Id.*

³³ *Id.* ¶5.

³⁴ *Id.*

sources. These include the “Prevention of Significant Deterioration” (PSD) permit applicable to “major stationary sources” in attainment areas³⁵ and the “New Source Review” permit for major stationary sources located in non-attainment areas.³⁶ For sources whose potential emissions fall below the thresholds for either of these permits, they must obtain a “minor New Source Review permit” prior to construction.³⁷ Collectively, all three permits are referred to as “New Source Review” permits.

The PSD program defines “major stationary source” in an attainment area as one of 28 source categories for which the PSD permitting threshold is potential emissions of 100 tons per year of any regulated NSR pollutant³⁸ or other sources with potential emissions of 250 tons per year of any regulated NSR pollutant.³⁹ In the 28 named source categories, fugitive emissions are considered in calculating potential to emit and in the remaining sources, fugitive emissions are not counted.⁴⁰

The PSD requirements prohibit the issuance of a permit absent a demonstration that the new source “will not cause, or contribute to, air pollution in excess of any[:]

- (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area [subject to the PSD program] more than one time per year,
- (B) national ambient air quality standard in any air quality control region, or
- (C) any other applicable emission standard or standard of performance under this chapter.”⁴¹

Such requirements also mandate that the new source of air pollution apply the “the best available control technology for each pollutant” that is subject to regulation.⁴²

To ensure that a new source will not violate the requirements of the PSD program, permitting authorities must model the air quality impacts of the proposed new source according to federal regulations before they can issue a permit to that source. These regulations require permitting authorities to model all emissions at the levels allowed in the permit and to model the air quality impacts of a new source using meteorological and background concentration data that is “representative” of the proposed source site.⁴³

The PSD permitting requirements are significantly greater than a minor NSR permit, which “entails ‘only the barest of requirements’ ” according to a recent federal Court of Appeals decision⁴⁴ and includes none of the in-depth analyses or best available control technologies outlined above and in the Clean Air Act.⁴⁵

³⁵ 42 U.S.C. §§ 7470–7479; *see also* 326 I.A.C 2-2 (Indiana rules).

³⁶ 42 U.S.C. §§ 7501–7515; *see also* 326 I.A.C. 2-3 (Indiana rules)

³⁷ 40 C.F.R §§ 51.160 through 51.164; *see also* 326 I.A.C 2-5.1 (Indiana rules).

³⁸ “Regulated NSR pollutant, for purposes of this section, means the following:

(i) Any pollutant for which a national ambient air quality standard has been promulgated....” 40 C.F.R. § 51.166.

³⁹ 42 U.S.C.A. § 7479(1); 40 C.F.R. § 51.166; 326 I.A.C §2-2-1(ff).

⁴⁰ *Id.*

⁴¹ 42 U.S.C. § 7475(a)(3).

⁴² *Id.*, § 7475(a)(4).

⁴³ 40 C.F.R. Pt. 51, App. W at 8.4.1(b) (EPA Guideline on Air Quality Models).

⁴⁴ *Sierra Club v. United States Env't Prot. Agency*, 964 F.3d 882, 886 (10th Cir. 2020)(quoting *Luminant Generation Co. v. EPA*, 675 F.3d 917, 922 (5th Cir. 2012)).

⁴⁵ *See e.g.*, 40 C.F.R §§ 51.160 through 51.164; 326 I.A.C 2-5.1.

A permitting authority's PSD permitting decisions are reviewed pursuant to 40 C.F.R. §124.19(a) and may be overturned when there is a clearly erroneous finding of fact or conclusion of law, or it involves an important matter of policy or exercise of discretion that warrants review.⁴⁶

Title V Requirements

To protect public health and the environment, the Clean Air Act prohibits stationary sources of air pollution from operating without or in violation of a valid permit, which must be designed to include and assure implementation and compliance with health-based emission standards and all other applicable requirements.⁴⁷ To that end, Title V permits must include such conditions as necessary to assure compliance with all applicable requirements.⁴⁸ “[A]pplicable requirements” include all standards, emissions limits, and requirements of the Clean Air Act.⁴⁹

“The permit is crucial to the implementation of the Act: it contains, in a single, comprehensive set of documents, all [Clean Air Act] requirements relevant to the particular polluting source.”⁵⁰ Thus, Title V requirements aim to “enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements.”⁵¹

Title V permits also must include compliance certification, testing, monitoring, reporting, and recordkeeping requirements that ensure the new source will comply with the conditions of its permit.⁵² The Indiana Plan implementing the Part 70 program requires monitoring and related record keeping and reporting requirements, which assure that all reasonable information is provided to evaluate *continuous compliance* with the applicable requirements.⁵³ Furthermore, a Title V permit must include:

- (ii) Where an applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring..., such periodic monitoring specifications sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the Part 70 permit as reported under clause (C). Such monitoring requirements shall assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement. Record keeping provisions may be sufficient to meet the requirements of this item.
- (iii) As necessary, requirements concerning the use, maintenance, and, where appropriate,

⁴⁶ 40 C.F.R. § 124.19(a); *see also In Re Prairie State Generating Company*, Order on PSD Appeal No. 05-05, 10 (August 24, 2005) and *In the Matter of Cash Creek Generation, LLC*, Order on Petition No. IV-2010-4, 4 (June 22, 2012).

⁴⁷ 42 U.S.C. §§ 7661a, 7661c.

⁴⁸ 40 C.F.R. §§ 70.1(b), 70.6(a)(1); 42 U.S.C. § 7661c(a), (c).

⁴⁹ 40 C.F.R. § 70.2.

⁵⁰ *Virginia v. Browner*, 80 F.3d 869, 873 (4th Cir. 1996) (purpose of Title V permit is to provide “a source-specific bible for Clean Air Act compliance”); *Sierra Club v. EPA*, 536 F.3d 673, 674-75 (D.C. Cir. 2008) (“But Title V did more than require the compilation in a single document of existing applicable emission limits It also mandated that ‘[e]ach permit . . . shall set forth . . . monitoring . . . requirements to assure compliance with the permit terms and conditions.’”).

⁵¹ EPA, Operating Permit Program, Final Rule, 57 Fed. Reg. 32,250, 32,251 (July 21, 1992).

⁵² 42 U.S.C. § 7661c(c); 40 C.F.R. § 70.6(c)(1).

⁵³ 326 I.A.C. 2-7-5(5)(emphasis added).

installation of monitoring equipment or methods.⁵⁴

Finally, “[t]he permitting authority shall provide a statement that sets forth the legal and factual basis for the draft permit conditions”⁵⁵ This “statement of basis” must include, among other things, a reasoned explanation for why the selected monitoring, recordkeeping, and reporting requirements are sufficient to assure the facility’s compliance with each applicable requirement.⁵⁶

Legal Basis of Petition

Indiana has a combined NSR/Title V permit program under which a single permit authorizes both construction and operation, like the Permit at issue in this petition.⁵⁷ Therefore, Title V’s permit issuance procedures apply to all federally enforceable conditions included in these combined permits, including EPA review and the opportunity for members of the public to petition EPA to object to deficient proposed permits, under the following procedure.

Once the permitting authority issues a draft permit following the public comment period, it must send the permit to EPA for a 45-day review period to ensure compliance with “applicable requirements” of the Clean Air Act and the state implementation plan.⁵⁸ If EPA does not object, the permit may be issued after the review period has ended, but:

any person may petition the Administrator within 60 days after the expiration of the 45-day review period specified in paragraph (1) to take such action. A copy of such petition shall be provided to the permitting authority and the applicant by the petitioner. The petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period). The petition shall identify all such objections.⁵⁹

Accordingly, EPA is statutorily obligated to consider Petitioner’s demonstration that the WSP permit fails to properly implement and assure compliance with applicable NSR and Title V requirements.⁶⁰ If EPA concludes that Petitioner has met its burden of demonstrating that the

⁵⁴ *Id.*

⁵⁵ 40 C.F.R. § 70.7(a)(5). In Indiana, the “statement of basis” is called the “Technical Support Document.” *See* the Permit, Draft Permit TSD and ATSD.

⁵⁶ *See, e.g., In re Los Medanos Energy Center*, EPA Order in Response to Petition. 10-13 (May 24, 2004)(https://www.epa.gov/sites/production/files/2015-08/documents/los_medanos_decision2001.pdf).³⁷ 68 Fed. Reg. at 9894-95).

⁵⁷ <https://www.in.gov/idem/airpermit/information-about/operating-permits/>; Indiana Protocol for Incorporating Federally-Approved Permits into Title V Operating Permits at 1 (January 16, 2002) (2002 Indiana Protocol)(https://www.epa.gov/sites/production/files/2017-11/documents/indiana_protocol_for_incorporating_federally-approved_permits.pdf).

⁵⁸ 42 U.S.C. § 7661d(a)(1) and (b)(1).

⁵⁹ 42 U.S.C. § 7661d(b)(2).

⁶⁰ *See, e.g., EPA, Conditional Approval of Implementation Plan; Indiana, Final Rule*, 68 Fed. Reg. 9892, 9894-95 (Mar. 3, 2003)(stating in its conditional approval of Indiana’s PSD program that “EPA will review the process followed by the permitting authority in determining best available control technology, assessing air quality impacts, meeting Class I area requirements, and other PSD requirements, to ensure that the required [State Implementation Plan] procedures . . . were met”).

Permit should have included PSD rather than minor NSR preconstruction requirements, EPA must grant the petition and object to the Permit. Moreover, the plain language of the Clean Air Act unambiguously requires EPA to object to a permit that violates the requirements of Indiana’s NSR preconstruction permitting program. Title V of the Act states that “[i]f any permit contains provisions that are determined by the Administrator as not in compliance with the *applicable requirements of this chapter, including the requirements of an applicable implementation plan*, the Administrator *shall . . . object to its issuance.*”⁶¹ The NSR preconstruction requirements contained in Title I Part C of the Act and at 326 I.A.C. §§2-2, 2-3 and 2-5.1. of the Indiana Plan clearly are “requirements.”⁶² Those “requirements” become “applicable” when a new source of air pollution meets the statutory and regulatory applicability criteria for the NSR preconstruction program.⁶³

A recent federal Court of Appeals case has confirmed that “applicable requirements” in the context of 42 U.S.C. §7661d includes both NSR and Title V requirements. In *Sierra Club v. United States Env’t Prot. Agency*, an environmental organization petitioned EPA to object to a Title V renewal permit for PacifiCorp Energy’s Hunter Plant, arguing that “applicable requirements” includes both PSD and Title V requirements.⁶⁴ The Hunter Plant had been granted a “minor source NSR permit,” similar to WSP, by the State of Utah in a prior year; that decision went unchallenged.⁶⁵ Later, the source applied for a Title V operating permit, and the minor NSR requirements were integrated into its Title V permit.⁶⁶ When the source applied for renewal of the Title V permit, the Sierra Club filed a petition under §7661d(b)(2) on the basis that the source should have been permitted originally as a major NSR, i.e., PSD, source. EPA denied Sierra Club’s petition on the grounds that in the context of §7661d(b)(2), “applicable requirements” only means Title V requirements. In the appeal, the 10th Circuit sided with Sierra Club and held that both NSR/PSD requirements as well as Title V require constituted “applicable requirements,” so any EPA review of a permit under §7661d(b)(2) had to ensure compliance with both sets of requirements.⁶⁷ In doing so, the court noted that EPA’s interpretation in the instant case flew in the face of long-standing precedent in which EPA had applied Sierra Club’s interpretation of the statute.⁶⁸

The basis for the 10th Circuit decision was the “unambiguous” definition of “applicable requirements” in the Title V implementing regulations:

Applicable requirement means all of the following as they apply to emissions units in a part 70 source ...:

(1) Any standard or other requirement provided for in the applicable implementation plan approved or promulgated by EPA through rulemaking under title I of the Act that implements the relevant requirements of the Act, including any revisions to that plan promulgated in part 52 of this chapter;

⁶¹ 42 U.S.C. § 7661d(b)(1)(emphasis added).

⁶² See, e.g., *Merriam-Webster Online Dictionary*, available at <https://www.merriam-webster.com/dictionary/requirement> (defining “requirement” as “something required”).

⁶³ See, e.g., *id.* (defining “applicable” as “capable of or suitable for being applied”).

⁶⁴ 964 F.3d 882 (10th Cir. 2020).

⁶⁵ *Id.*, at 887.

⁶⁶ *Id.*

⁶⁷ *Id.* at 891-893.

⁶⁸ *Id.*, at 895.

(2) Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D, of the Act....⁶⁹

Although a concurrent 2020 5th Circuit case found that a §7661d review should only address Title V and not NSR issues (*Env't Integrity Project v. United States Env't Prot. Agency*, 969 F.3d 529, 546 (5th Cir. 2020)), the 10th Circuit distinguished that case by noting that EPA defended its decision in that case based on its interpretation of the *statute*, not the *regulation* that implemented it. As the court stated, “Because we determine that the regulation precludes the EPA's interpretation, we need not reach the statutory issue underlying the Fifth Circuit's recent opinion.”⁷⁰

EPA has since reopened the Hunter Plant Permit pursuant to *Sierra Club* rather than appealing the 10th Circuit's decision.⁷¹ In that reopener, EPA attempted to limit the *Sierra Club* decision to permits arising from the 10th Circuit, an unworkable and inequitable position.⁷² EPA went on to state in a footnote:

The EPA acknowledges that *Sierra Club* governs here. At the same time, the EPA continues to believe that the interpretation of the CAA reflected in the Fifth Circuit's decision in *Environmental Integrity Project v. EPA*, 969 F.3d 529 (5th Cir. 2020), is correct. The EPA thus intends, *where supported by the facts of individual permits*, to continue to *apply the reasoning of In re Big River Steel, LLC*, Order on Petition VI-2013-10 (Oct. 31, 2017), when issuing title V permits and reviewing petitions on permits for sources in states outside of the Tenth Circuit.⁷³

The instant case is closely aligned with *Sierra Club*, distinguishable from the “reasoning” in *In re Big River Steel* and should be accorded the same scrutiny applied to the Hunter Plant permitting decision. Like the Hunter Plant, WSP was issued a combined NSR/Title V permit in which the NSR permitting decision established the foundational aspects of all “applicable requirements” to ensure compliance with the Clean Air Act. If the foundational permitting decision is invalid, all applicable requirements that flow from the type of preconstruction permit required, which include and implicate Title V compliance assurance requirements, should be invalid as well, and EPA's review of only those Title V requirements is hollow, providing no assurance to the public that the permit complies with the Clean Air Act and the State Implementation Plan. For example, if a source is misclassified as a minor source for a pollutant and escapes BACT requirements that would otherwise apply to a major source, the preconstruction permit would not contain BACT limits and the Title V permit would not contain the compliance demonstration conditions for those BACT limits.

In *In re Big River Steel*, the petition challenged *aspects* of the PSD permit rather than the *type* of

⁶⁹ 40 C.F.R. § 70.2.

⁷⁰ *Sierra Club v. United States Env't Prot. Agency*, 964 F.3d at 897.

⁷¹ *In the Matter of PacifiCorp Energy Hunter Power Plant*, Order on Petitions Nos. VIII-2016-4 & VIII-2020-10 (January 13, 2021)(<https://www.epa.gov/title-v-operating-permits/title-v-petition-database>).

⁷² *Id.* at 15 (“The EPA interprets the Tenth Circuit's decision to mean that permitting authorities within the Tenth Circuit's jurisdiction must consider—and address public comments relating to—whether there are major NSR requirements, as opposed to solely minor NSR requirements, that are the “applicable requirements” in the course of issuing title V permits.”).

⁷³ *Id.* at 15, FN. 26 (emphasis added).

permit issued. Petitioner's claims related to the modeling performed for the air quality impact analysis, the BACT analysis and the adequacy of the permit application.⁷⁴ In the Order, EPA was concerned about the definition of "applicable requirements" in the context of the petitioner's request that EPA review the PSD permit "terms and conditions" in addition to the Title V "terms and conditions." EPA's reasoning focused on the "ambiguity" that was presented by the term "applicable requirements" *once the Title I permitting decision was made* rather than the foundational permitting decision itself: "But when a source *has obtained* a preconstruction permit, for purposes of writing a title V permit, this presents an ambiguity in the definition of "applicable requirement" because section (2) for includes the terms and conditions of that permit."⁷⁵ Clearly EPA's "reasoning" in *In re Big River Steel* does not apply to the WSP petition, where the type of permit is at issue, and EPA should not follow it here.

Rather, WSP's foundational permitting decision must be reviewed by EPA because pursuant to *Sierra Club*, "...the regulation is not ambiguous. It unmistakably requires that each Title V permit include all requirements in the state implementation plan, *including Utah's requirement for major NSR.*"⁷⁶ This review is especially suited to a §7661d review because the interpretation of one of the 28 source categories for lower threshold PSD applicability is at issue for the first time in this forum, making it a particularly important policy and legal issue.⁷⁷ As will be discussed below, numerous states have made the decision that the Waelz kiln is not a "secondary metal production plant" based on specious arguments that have been repeated by verbatim by those states without independent and rigorous regulatory analysis. Without EPA oversight of this foundational PSD permitting issue, this loophole will continue to widen. This petition is the appropriate time and place for EPA to ensure the Clean Air Act is enforced in this context.

It is notable that EPA appears to be embracing its prior interpretation of the scope of a §7661d review. In a recent decision on a Title V Petition, *In the Matter of BP Amoco Chemical Company*, the Administrator reviewed and decided NSR issues along with Title V issues, reaffirming that "applicable requirements,' as defined in the EPA's and TCEQ's rules, include the terms and conditions of preconstruction permits issued by TCEQ, including requirements contained in a PBR [Permit By Rule] that is claimed by a source, as well as source-specific emission limits established through certified registrations associated with PBRs. *See* 40 C.F.R. § 70.2; 30 TAC § 122.10(2)(H)."⁷⁸

Timeliness

IDEM issued a draft of the minor NSR/Title V Permit for public review and comment on November 16, 2020. Petitioner and other commenters timely submitted comments on the draft permit on December 21, 2020.⁷⁹ IDEM issued a proposed permit for EPA review on May 3, 2021, which initiated EPA's 45-day review period.⁸⁰ This review period ended on June 17, 2021.

⁷⁴ *In re Big River Steel, LLC*, Order on Petition VI-2013-10 at 7-8 (Oct. 31, 2017).

⁷⁵ 40 C.F.R. § 70.2.

⁷⁶ *Sierra Club v. United States Env't Prot. Agency*, 964 F.3d at 891.

⁷⁷ *See* 40 C.F.R. § 124.19(a).

⁷⁸ *In the Matter of BP Amoco Chemical Company*, Order Responding to Petition No. VI-2017-6, 39 (July 20, 2021).

⁷⁹ *See* Permit ATSD; Exhibit F.

⁸⁰ *See* 42 U.S.C. § 7661d(a), (b)(1); 40 C.F.R. § 70.8(a), (c); *see also* 40 C.F.R. § 70.2 (defining "proposed permit" as "the version of a permit that the permitting authority proposes to issue and forwards to the Administrator for review in compliance with § 70.8").

Therefore, Petitioner has 60 days from the end of this period—or, until August 16, 2021—to file a petition with EPA to object to the permit, making this petition timely.⁸¹

If a petitioner shows that Indiana issued a permit that does not comply with the state’s federally approved regulations governing NSR permitting or “exercise[d] discretion under such regulations [that] was unreasonable or arbitrary,” then EPA must object to the permit’s issuance.⁸² As set forth below, Indiana has issued a combined Minor NSR/ Title V Permit to the Plant that violates both Title V and NSR. Thus, EPA must object to the Permit.

III. Grounds for Objection

The Permit is Unlawful Because WSP is a Secondary Metal Production Plant subject to PSD.

IDEM Summary of Public Comments:

General Statement 12 - 1 of the 28 Listed Source Categories⁸³

Many commenters said that the WSP plant should be considered 1 of the 28 listed source categories under the Clean Air Act (CAA) and the PSD rules, since it should be considered a secondary metal production plant. If the WSP plant was considered 1 of the 28 listed source categories, then the PSD major source threshold would be 100 tons per year and fugitive emissions should be counted toward determining applicability of PSD.

IDEM Response

IDEM first quoted WSP to respond, rejecting specifically the comments made by Petitioner. WSP’s comments are summarized here:

- WSP produces two products that contain zinc oxide and “iron compounds,” neither of which are metal products even though they contain metal elements. They are called “Waelz Zinc Oxide” and “Waelz Iron Product.”
- Waelz does not melt zinc, distill zinc or produce zinc dust.
- Waelz Zinc Oxide is made from Electric Arc Furnace dust, not scrap metal.
- SIC codes and other EPA Rules and Decisions are not determinative.⁸⁴

IDEM then continued:

Based on information provided by WSP, the WSP facility will not involve any process steps where metal is managed in a melted or molten state. As explain (sic) in the next paragraph below, the zinc contained (in) the pellets that are fed to the Waelz kilns is reduced and then volatilized from the pellets without becoming a molten zinc (i.e., it does not become melted/liquified elemental zinc). Based on a review of scientific literature, the zinc contained in EAF dust consists mostly of the metal oxide minerals franklinite (ZnFe₂O₄)

⁸¹ 42 U.S.C. § 7661d(b); 40 C.F.R. § 70.8.

⁸² See *In the Matter of Cash Creek Generation, LLC*, Order on Petition No. IV-2010-4, 4 (June 22, 2012) (“Cash Creek Order”)(in which EPA objected to provisions of a combined Title V operating permit and PSD permit issued to a new coal gasification facility for violations of both operating and construction permit requirements).

⁸³ Permit ATSD, p. 25; see also, *id.*, Comments of Kathryn A. Watson on behalf of Petitioner, pp. 167-175 and App. C.

⁸⁴ *Id.*, pp. 25-30.

and zincite (ZnO), where the zinc is in an oxidized form with an oxidation number of +2. Franklinite (ZnFe₂O₄) has a melting point above 1420°C and zincite (ZnO) has a melting point of 1975°C. However, in the presence of a reducing agent (e.g., a carbonaceous material), both solid phase franklinite (ZnFe₂O₄) and zincite (ZnO) can undergo reduction to zinc gas (vapor) at temperatures between 900°C and 1250°C, with higher temperatures resulting in a higher percent reduction of a sample in a shorter period of time.

The Waelz kilns at this source will use a process where pellets consisting of EAF dust and other zinc-bearing materials, a reductant carbonaceous material (e.g., petroleum coke, metallurgical coke, and/or anthracite coal), and a flux (e.g., limestone), are heated at an elevated temperature (approximately 1200°C). As the materials are move down the kiln, the carbonaceous material begins to burn creating carbon monoxide (CO) that reacts with the oxidized zinc in the pellets reducing it to elemental zinc (boiling point 907°C) that then volatilizes as zinc vapor from the pellets. The volatilized zinc vapor then reacts with oxygen in the kiln to form the oxidized metal, zinc oxide, that is carried in an airstream to the top of kiln and then to the product collectors (PC1 and PC2). The zinc oxide cools between the top of the kiln and product collectors and condenses into a particulate form called Waelz Zinc Oxide (WZO) that is collected by the product collectors.”

IDEM also stated that it “evaluated the information submitted by WSP in the box above and has determined that the information adequately addresses the arguments and assertions made by [CCCC] and other commenters that made similar comments.”⁸⁵

IDEM went on to note that five other states have reached the same conclusion that a Waelz kiln is not a secondary metal production plant.⁸⁶

Petitioner’s Argument

As noted above, a permitting authority’s PSD permitting decisions may be overturned when there is a clearly erroneous finding of fact or conclusion of law, or *it involves an important matter of policy or exercise of discretion* that warrants review.⁸⁷ The proper categorization of a Waelz kiln for PSD permitting purposes is an important matter of policy because EPA has not defined “secondary metal production plant” in the PSD program or made a definitive decision whether a Waelz kiln is a “secondary metal production plant.” Waelz kilns require EPA’s consideration because they constitute heavy manufacturing that emits hundreds of tons of criteria pollutants per year including toxic metals with potentially severe health effects.⁸⁸ Furthermore, IDEM has made an erroneous conclusion that a Waelz kiln is not a secondary metal processing plant.

“Secondary metal production plant” is one of the 28 designated source categories for which there is a 100 ton per year threshold rather than the 250 tons per year threshold for non-designated sources. It is a term that is not defined in the Clean Air Act, in federal regulations interpreting the Clean Air

⁸⁵ *Id.*, p. 30 (emphasis added).

⁸⁶ *Id.*, pp. 31-34.

⁸⁷ 40 C.F.R. § 124.19(a)(emphasis added); *see also In Re Prairie State Generating Company*, Order on PSD Appeal No. 05-05, 10 (August 24, 2005) and *In the Matter of Cash Creek Generation, LLC*, Order on Petition No. IV-2010-4, 4 (June 22, 2012).

⁸⁸ Permit, TSD, App. A, Emissions Calculations tables; Exhibit D. *See also* FN12.

Act nor in Indiana law.⁸⁹ When interpreting an undefined term in the Clean Air Act, EPA's decisions are reviewed under the *Chevron* standard: in reviewing EPA's interpretation of the term "major stationary source" under the CAA, the U.S. Supreme Court set forth a two-part test for reviewing EPA's interpretation of the statute:

When a court reviews an agency's construction of the statute which it administers, it is confronted with two questions. First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress. If, however, the court determines Congress has not directly addressed the precise question at issue, the court does not simply impose its own construction on the statute, as would be necessary in the absence of an administrative interpretation. Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute.

The power of an administrative agency to administer a congressionally created ... program necessarily requires the formulation of policy and the making of rules to fill any gap left, implicitly or explicitly, by Congress." *Morton v. Ruiz*, 415 U.S. 199, 231, 94 S.Ct. 1055, 1072, 39 L.Ed.2d 270 (1974). If Congress has explicitly left a gap for the agency to fill, there is an express delegation of authority to the agency to elucidate a specific provision of the statute by regulation. Such legislative regulations are given controlling weight unless they are arbitrary, capricious, or manifestly contrary to the statute.⁹⁰

In the instant case, EPA has not defined "secondary metal production plant," but the *Chevron* Court provides guidance for EPA's interpretation. First, EPA must consider whether Congress has "spoken directly" and whether "its intent is clear." If not and only then, would EPA's interpretation be entitled to deference, provided it is not arbitrary, capricious, or manifestly contrary to statute.⁹¹

Each of the words in "secondary metal production plant" has a clear meaning. According to Merriam-Webster's dictionary:⁹²

"Secondary: immediately derived from something original, primary, or basic; of, relating to, or being the second order or stage in a series."

"Metal: any of various opaque, fusible, ductile, and typically lustrous substances that are good conductors of electricity and heat, form cations by loss of electrons, and yield basic oxides and hydroxides."

"Product": something produced : PRODUCT."

⁸⁹ 42 U.S.C.A. § 7479(1); 40 C.F.R. § 51.166; 326 I.A.C §2-2-1(ff).

⁹⁰ *Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837, 842-44, 104 S. Ct. 2778, 2781-82, 81 L. Ed. 2d 694 (1984).

⁹¹ This latter standard is consistent with the clear error and discretion standards in 40 C.F.R. §124.19(a) ("a permitting authority's decision is entitled to deference unless there is a clearly erroneous finding of fact or conclusion of law, or it involves an important matter of policy or exercise of discretion that warrants review").

⁹² <https://www.merriam-webster.com/>.

“Plant: a factory or workshop for the manufacture of a particular product.”

Thus, a plant that produces a product made from metal derived from a primary production process through a secondary process would meet the definition. This is exactly what WSP does.

To the extent there is any ambiguity, EPA must look to Congressional intent. The 1977 CAA Amendments were preceded by House and Senate debates on conflicting bills resulting in a Conference Committee bill in 1976 that was ultimately killed by filibuster in the Senate on a final vote.⁹³ However, both the 1976 Conference Committee bill and the 1977 Amendments included the PSD program in the CAA for the first time, replacing EPA regulations that had attempted to define the PSD program by administrative rule.⁹⁴

In the Senate debate on SB 3219 on July 29, 1976, Senator McClure discussed legislative intent in selecting the 28 “major emitting facilities” subject to the 100 tpy PSD threshold, noting that EPA’s regulations proposed 19 facility types, but the Senate Committee decided to go further and add an additional 9, totaling 28.⁹⁵ In a chart placed in the record of 190 source categories considered, from which Congress eventually selected nine in addition to EPA’s proposed 19 sources, Senator McClure stated:

Mr. President, I ask unanimous consent that an extract from that report of the Research Corp. of New England listing the 190 types of sources, from which EPA took 19, and the committee took 28 be printed in the record at this point as an illustration of what the committee examined and *the kinds of sources the committee intended to include and exclude* recognizing that it is neither exclusive nor invariable.⁹⁶

On the referenced report included in the Congressional Record 190 stationary sources of air pollution are listed, including “V. Metallurgical Industry: Primary Metals...Secondary Metals:...Zinc: Distillation, Sweating.”⁹⁷

In the Background Report on the Secondary Zinc Industry for AP42, EPA discussed the two methods of secondary production. “Distillation involves vaporization of zinc at temperatures from 982 to 1249°C (1800 to 2280°F) and condensation as zinc dust or liquid zinc. Zinc dust is produced by rapid cooling following vaporization.”⁹⁸ EPA also refers to this process as “refining.” The Background Report also discusses “sweating” and “melting” of zinc in secondary production as processes distinct from distillation.⁹⁹

The Permit Application describes WSP’s distillation process:

The Waelz Kilns will be large rotating drums, one 200 ft long with a 15 ft diameter (Kiln 1) and the other 180 ft long with a 13 ft diameter (Kiln 2). Kiln 1 will be fired by a natural

⁹³ Arthur C. Stern (1977) Prevention of Significant Deterioration A Critical Review, Journal of the Air Pollution Control Association, 27:5, 440-453, DOI:

10.1080/00022470.1977.10470440 (<https://doi.org/10.1080/00022470.1977.10470440>).

⁹⁴ *Id.*; 42 U.S.C.A. § 7470 (August 7, 1977).

⁹⁵ 22 Cong. Rec. S12775-127813, at S12781 (daily ed. July 29, 1976)(Attachment A).

⁹⁶ *Id.*

⁹⁷ *Id.* at S12781-12783.

⁹⁸ AP 42, 5th Edition, Compilation of Air Emission Factors, Vol. 1, for Stationary Point and Area Sources, Ch. 12.7.

⁹⁹ *Id.*

gas-fired 50MMBtu/hr burner and Kiln 2 will be fired by a natural gas-fired 40 MMBtu/hr burner, each located at the material discharge end. Heated air flows from the burner (discharge) end toward the feed end, countercurrent to the material flow. The primary feed material will be EAF dust and other zinc bearing secondary materials. ... The feed material will undergo a series of complex *reduction and reoxidation* reactions as it traverses the kiln. ... The lighter material that passes through the settling chamber will be collected in two large product Collectors.... The slag-like solids will leave the kilns at a temperature between 900 and 1,100 °C.¹⁰⁰

Thus, secondary zinc production, including distillation, has been considered secondary metals production from the earliest genesis of the PSD program and the WSP Waelz process fits squarely within it.

WSP and IDEM both argue that WSP does not produce a “metal product.”¹⁰¹ But the end product is irrelevant to the categorization of the plant. In interpreting the applicability of “secondary metal production plant” to an aluminum smelter, EPA has stated with regard to the focus of the PSD program, “Congress intended EPA to focus on those activities which could cause significant emissions [sic] of pollutants and hence, significant deterioration of air quality. Thus, EPA interprets the Congressional intent in determining whether or not a source is within one of the 28 listed source categories, as based upon the source's pollutant emitting activity ... rather than the source's finished product.”¹⁰² Thus, more important to this analysis than the end product is whether WSP will produce significant emissions from its primary pollutant emitting activity. It does. WSP's primary activities, the two Waelz kilns including associated baghouses, bin vents, scrubbers, and feed dryer burners, have potential uncontrolled PM emissions of over 11,500 tons per year, well above the PSD threshold for secondary metal production plants.¹⁰³

WSP and IDEM next argue that WSP does not “distill” or “melt” zinc. Petitioner's expert Dr. Ranajit Sahu addresses this issue in his expert report attached hereto, as follows.¹⁰⁴ As the process description by IDEM in the Permit ATSD confirms, the overall steps in the Waelz kiln involve: (i) first, a reduction of the zinc oxide in the feed pellets to elemental zinc present as a volatile substance followed next by (ii) the reoxidation of this volatile metallic zinc to the WZO zinc oxide product. Thus, it is clear that there is some period of time and some spatial location in each Waelz kiln where elemental zinc is produced and is present in vapor form.¹⁰⁵ Thus, there is no question

¹⁰⁰ Permit Application at 2.1. A more complete and transparent description of the Waelz process can be found in Report to Congress on Metal Recovery, Environmental Regulation and Hazardous Waste, EPA530-R-93-018 NTIS: PB94-184850 February 1994, at 109 (“A Waelz kiln is an inclined horizontal rotary kiln ranging from 160 to 180 feet in length and 10 to 12 feet in internal diameter. The kiln is inclined slightly downward from the feed end with a slope of about one inch per four feet of length. The kiln rotates at a speed of about thirty rotations per hour, and together the incline and the rotation move the feed slowly down the kiln to the discharge end. Residence time for material that moves through the entire kiln is approximately two and a half hours. As the conditioned EAF dust mixture moves down the kiln it is first dried, and then heated until the coal or coke begins to burn, which eventually raises the temperature of the mixture to 1,100°C or higher. The burning of carbon (from the coal or coke) in the kiln reduces most of the zinc, cadmium, and lead in the EAF dust to metallic form. These metals volatilize, and are pulled out of the kiln in a gas stream. The metals are reoxidized and captured as particulate in a collector.”)

¹⁰¹ Permit ATSD, p. 26.

¹⁰² “Request for PSD Applicability Determination, Golden Aluminum Company,” https://archive.epa.gov/airquality/ttnsr01/web/html/p3_34.html.

¹⁰³ Permit Application, App. C, Table C-2.

¹⁰⁴ Affidavit and Report of Dr. Ranajit Sahu, Exhibit G.

¹⁰⁵ *Id.*, p. 2-3.

that pure zinc metal is produced as part of the Waelz process inside the kiln.¹⁰⁶

IDEM glosses over this fact and stresses that the pure zinc produced is not a liquid or molten metal, but that it is a vapor. The physical state (i.e., whether the pure metal) as a liquid or as a vapor is irrelevant to this determination.¹⁰⁷ The fact that the process produces the pure metal, albeit as a vapor – with its subsequent oxidation as a next step in the process – is sufficient to conclude that it is “metal production,” followed by further processing (i.e., reoxidation) of the metal that is produced.¹⁰⁸ The process is “secondary” metal production because the starting feed stock is not an ore.¹⁰⁹

The fact that there is subsequent processing of the produced metal in a vapor state to a different form (in this case zinc oxide) should not obscure the first part (i.e., formation of the pure metal itself) of the process.¹¹⁰ This fact alone dictates that the process at issue is secondary metal production. IDEM and WSP do not discuss to what extent the zinc vapor produced first is completely or partially oxidized to zinc oxide in the second step – in other words that not all of the zinc vapor is oxidized and that the WZO may contain some pure zinc in addition to zinc oxide.

IDEM and WSP also ignore the fact that the zinc oxide produced by WSP is used to make zinc at other facilities, making the Waelz process a step in the secondary production of zinc.¹¹¹ For example, American Zinc Products, “an AZR Company,” uses zinc oxide from its EAF dust recycling process to make pure zinc products such as special high grade zinc and continuous galvanizing grade zinc.¹¹² The fact that AZR may do so in a different facility than the location where the zinc oxide is produced should not allow Waelz producers to create a loophole in PSD regulation through which they will slip without sufficient regulatory analysis.

Finally, it is important to note that there are many secondary metal production facilities where the final product is not the pure metal but some other form containing the metal. For example, secondary metal formation of steel (which is not a metal but an alloy) can result in many different alloy forms of steel.¹¹³ Here, the final product is mostly zinc oxide, and not all zinc, the metal. But one cannot read into the term “secondary metal production plant” a requirement that the end product has to be the pure metal and no other product. By that definition many other secondary metal production processes, such as steel production, would not qualify either.¹¹⁴ In short, the final form of the metal does not matter if pure metal is produced at some stage of the process, which is unequivocally true in any Waelz kiln.

Next, IDEM states in the ATSD that “The WSP plant does not use post-consumer scrap or scrap metal” and WSP argues that the definition of “scrap metal” in the federal Resource Conservation and Recovery Act (RCRA) regulations does not include zinc dust. These points argue differences without distinction or merit. RCRA defines “scrap metal” as “bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or

¹⁰⁶ *Id.*, p. 3.

¹⁰⁷ *Id.*, p. 3.

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ *Id.*, pp. 3-4.

¹¹² <https://americanzincproducts.com/what-we-do/>.

¹¹³ Sahu Report, p. 4.

¹¹⁴ *Id.*

soldering (e.g., radiators, scrap automobiles, railroad box cars), which, when worn or superfluous, can be recycled.”¹¹⁵ This definition does not apply in the Clean Air Act or its PSD program, but even so, nothing about this definition necessarily *excludes* EAF dust.

If other regulatory interpretations are relevant to the analysis as WSP and IDEM have argued, in OSHA’s “Guidance for the Identification and Control of Safety and Health Hazards in Metal Scrap Recycling,” it is noted “Zinc is found as dust or fumes in air at manufacturing sites, and at recycling sites. The chief sources of zinc scrap are brass, die casting scrap, *flue dust*, zinc sheet, galvanizing residues, and zinc die casts (USGS 2001).”¹¹⁶

WSP acknowledged in its Permit Application that the plant will be classified as “Secondary Smelting and Refining of Non-Ferrous Metal” under SIC code 3341,¹¹⁷ but then states without any support that “it has been long recognized within EPA guidance that SIC codes are not a determining factor for PSD industry classification.” IDEM in the final Permit states the same belief, but the only support it provides is the *Golden Aluminum* decision, in which EPA stated, “another source of information *relevant* to the proper categorization of the proposed plant is the Standard Industrial Classification (SIC) Manual.”¹¹⁸ By this measure, the SIC code supports the classification of Waelz kilns as secondary metal production plants.

Additional support can be found in other EPA regulations. EPA has previously interpreted secondary metal production plants in the Regional Haze rules, a sister program to PSD, intended to reduce and prevent regional haze from sources impacting Class I areas (national parks and wilderness areas). Appendix Y to Part 51—Guidelines for Best Available Retrofit Technology Determinations Under the Regional Haze Rule¹¹⁹ provides that the BART rules apply to the same 28 sources listed in the PSD rule, including “secondary metal production facilities.” It further states:

(7) “Secondary metal production.” We interpret this category to include nonferrous metal facilities *included within SIC code 3341*, and secondary ferrous metal facilities that we also consider to be included within the category “iron and steel mill plants.”¹²⁰

Appendix Y, in adopting the PSD specific source categories for BART applicability, makes clear that facilities included within SIC 3341 are secondary metal production facilities.

EPA has also addressed the proper classification of Waelz kilns in the context of the Greenhouse Gas reporting rule. The Technical Support Document for the zinc production sector in the Greenhouse Gas Mandatory Reporting Rule continues EPA’s understanding of the primary and secondary zinc production and the Waelz process in secondary production:

For this proposed rule, EPA is defining the zinc production source category to consist of zinc smelters using pyrometallurgical processes and secondary zinc recycling facilities. Zinc smelters can process zinc sulfide ore concentrates (primary zinc smelters) or zinc-

¹¹⁵40 CFR Section 261.2(c)(6).

¹¹⁶ U.S. Department of Labor OSHA 3348-05 2008, p. 26 (emphasis added), Exhibit H.

¹¹⁷ Permit Application, p. 8.

¹¹⁸ Permit ATSD, p.35 (emphasis added).

¹¹⁹ 40 C.F.R. § Pt. 51, App. Y.

¹²⁰ *Id.* (emphasis added).

bearing recycled and scrap materials (secondary zinc smelters). A secondary zinc recycling facility recovers zinc from zinc-bearing recycled and scrap materials to produce crude zinc oxide for use as a feed material to zinc smelters. Many of these secondary zinc recycling facilities have been built specifically to process dust collected from electric arc furnace (EAF) operations at steel mini-mills across the country.... Secondary zinc recycling facilities operating in the U.S. use either of two thermal processes to recover zinc from recycled EAF dust and other scrap materials. For the Waelz kiln process, the feed material is charged to an inclined rotary kiln together with petroleum coke, metallurgical coke, or anthracite coal. The zinc oxides in the gases from the kiln are then collected in a baghouse or electrostatic precipitator.¹²¹

The “Zinc Production” subpart of the GHG Reporting Rule applies to zinc smelters and secondary zinc recycling facilities, as discussed in the TSD.¹²² In fact, Waelz kilns have their own GHG reporting requirements.¹²³

IDEM’s and WSP’s last argument is that other states have issued PSD permits to Waelz kilns using the 250 ton per year threshold. But only two of these permits actually addressed the PSD categorization of Waelz kilns and despite a claim that EPA “concurred with this finding,” no such written concurrence was provided in the agency record.

South Carolina – the South Carolina Department of Health and Environmental Control issued a Construction Permit to Horsehead Corporation (now known as American Zinc Recycling or “AZR”) on September 2, 2008, to construct a Waelz kiln to “produce an intermediary zinc oxide product using EAF Dust as the primary feedstock.”¹²⁴

In the Permit ATSD, WSP cites a “PSD Threshold Determination” that was included as part of Horsehead’s permit application.¹²⁵ This determination was a March 17, 2008, letter from Veronica Barringer of the SC DHEC to Lem Stevens of ERM, Horsehead’s consultant, and attached ERM’s request for that determination. But Barringer’s letter merely states, “BAQ [Bureau of Air Quality] has reviewed pertinent information about the process and, with concurrence from the Environmental Protection Agency (EPA), has determined that the facility would not be considered a Secondary metal production plant.”¹²⁶

No independent analysis explaining how SC DEHC came to this conclusion and more importantly, *no written concurrence from EPA* was attached either to the WSP Permit ATSD or the South Carolina permit. Thus, Barringer’s statement about “concurrence from the EPA” is simply unsupported. ERM’s analysis on behalf of Horsehead requesting the determination is, predictably, nearly identical to WSP’s analysis in its Permit Application and the final Permit, referencing no use of scrap metal, no melting of post-consumer scrap and no production of a metal product, as well as

¹²¹ Technical Support Document for the Zinc Production Sector: Proposed Rule for Mandatory Reporting of Greenhouse Gases, U.S. EPA, Office of Air and Radiation (January 22, 2009) at 1 (emphasis added), Exhibit I.

¹²² 40 C.F.R. § 98.330.

¹²³ 40 C.F.R. §§ 98.332 and 98.333.

¹²⁴ South Carolina Permit Statement of Basis, p.1, Exhibit J.

¹²⁵ Permit, ATSD, App. E.

¹²⁶ *Id.*

referencing the Secondary Non-Ferrous Metal Processing NESHAP.¹²⁷

Tennessee – WSP only cites to AZR’s Title V permit for support, issued November 1, 2017, and minor modification #7 but not the original construction permit. In the statement of basis for each Title V permit there is simply a conclusory sentence the source is not a major source for PSD. No analysis is provided.¹²⁸

Illinois – AZR received a Construction Permit from Illinois for a new baghouse on January 22, 2020.¹²⁹ The permit states only the conclusion, with no analysis: “This permit is issued based on this project not being a major project for purposes of the federal rules for Prevention of Significant Deterioration (PSD); 40 CFR 52.21. This is because the source would continue to not be a major source for purposes of PSD.”¹³⁰

Alabama – Steel Dust Recycling, LLC received a construction permit from the Alabama Department of Environmental Management to construct a second Waelz kiln on June 16, 2008.¹³¹ In the engineering analysis for the permit, the department made the same points verbatim as those made by American Zinc Recycling and WSP.¹³²

Pennsylvania – WSP also cites as support a Pennsylvania permit Title V for American Zinc Recycling as support, but it does not even mention PSD much less provide any independent analysis of the PSD source issue.¹³³

In sum, based on a single unsupported and repeated line of argument from South Carolina, the Waelz kiln industry has constructed a loophole in the PSD regulations and stepped through multiple times without independent analysis by the respective state agencies charged with enforcing the regulations, and without EPA oversight. Using the same argument time and again, the Waelz industry expects EPA and state agencies to take these magic words as law without independent and objective analysis of the underlying emitting processes and sources and the levels of pollution emitted.

Because EPA is charged with enforcing the Clean Air Act and interpreting important policy matters within the context of the PSD program, it is time for EPA to independently evaluate the status of Waelz kilns under the PSD program and put an end to the misuse of this loophole and its significant environmental impacts. The level of emissions from these kilns and the potential downwind impact on Petitioner and surrounding EJ communities not only demands EPA’s interpretation but demands that Waelz kilns be properly regulated as secondary metal production plants under PSD. In its analysis, EPA must give due consideration to the plain language of the statute, Congressional intent, the emissions from the processes, EPA’s previous interpretations of the secondary metal production plant PSD category and an actual understanding of the operations and steps occurring inside the Waelz kilns rather than a self-serving justification repeated by the

¹²⁷ *Id.*; Permit, ATSD, pp. 26-27; Permit Application, Section 4.2, pp. 8-9; Exhibit K (comparison of verbatim language between ERM and WSP’s Permit Application by Ramboll).

¹²⁸ Tennessee AZR Title V Permit, Statement of Basis, November 1, 2017, Section I.C., p. 2; Tennessee AZR Title V Permit, Statement of Basis, February 10, 2020, Section I.C., p. 2., collectively Exhibit L.

¹²⁹ Exhibit M.

¹³⁰ *Id.*, Section 3.a., p. 3.

¹³¹ <http://lf.adem.alabama.gov/WebLink/DocView.aspx?id=29987883&dbid=0>.

¹³² Exhibit N, p. 4-5.

¹³³ Permit, ATSD, p. 34.

industry and accepted by state agencies without independent, objective analysis.

The Permit Is Unlawful for the Reason Provided in EPA Comments on the Draft Permit.

EPA Region 5 submitted comments on a draft of IDEM's permit for the proposed Plant on December 17, 2020.¹³⁴ Those comments identified flaws in the Permit's conditions, technology analysis, and underlying air quality modeling. Because the Permit does not correct several of those flaws, EPA must object to the Permit on grounds that it does not comply with the Clean Air Act.

U.S. EPA Comment 5

Conditions D.1.10 and D.2.9 require that the Permittee shall calibrate, operate and maintain a continuous bag leak detection system (BLDS) for the specified stack exhausts. Conditions D.1.10(k) and D.2.9(k) describe requirements that apply if a BLDS malfunctions, fails or otherwise needs repair, including a requirement to perform daily visible emissions notations. However, it is unclear whether the permit provides a timeframe upon which BLDS operation should be restored. To improve permit clarity, we request that IDEM review the permit and update it, if needed.¹³⁵

IDEM Response

IDEM agrees with the recommended changes, since each BLDS needs to be restored and operational in an appropriate timeframe.

In the final Permit, IDEM failed to provide a timeframe, stating in each section only that:

The Permittee shall take reasonable response steps to restore operation of the bag leak detection system to its normal or usual manner as expeditiously as practicable.¹³⁶

Petitioner's Argument

"As expeditiously as practicable" is not an "appropriate timeframe" nor an enforceable standard; "normal or usual manner" is wholly undefined in the Permit.¹³⁷ The purpose of a bag leak detection system is to ensure continuous compliance¹³⁸ with the source's emission limits. Any failure or delay in repairing the BLDS means that the system is not functioning, and excess emissions could occur without detection. IDEM's use of "normal and usual manner" and "as expeditiously as possible" provides no objective standard for determining compliance and is therefore arbitrary and capricious and an abuse of discretion. A definition of the "normal" operation of the BLDS in the Permit and a duration such as "no more than [#] hours" for repair would provide an enforceable

¹³⁴ Permit ATSD, p. 46.

¹³⁵ *Id.*, p. 56.

¹³⁶ *Id.*, p. 57.

¹³⁷ Sahu Report, p. 11.

¹³⁸ *See e.g.*, 40 C.F.R. §70.5(c)(8)(iii) (requirement for a compliance plan as part of the permit application showing how the source will continue to comply with the permit) and 40 C.F.R. §70.6(c)(5)(iii)(C) (requiring annual compliance certifications stating whether compliance during the period was continuous or intermittent); 326 I.A.C. 2-7-5(3)(permits must contain "Monitoring and related record keeping and reporting requirements, which assure that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.").

and measurable standard for return to proper operation.¹³⁹

Furthermore, while IDEM agreed with EPA's comment in the ATSD, it did not provide "a reasoned explanation" for why "reasonable response steps, and "as expeditiously as possible" are "sufficient to assure the facility's compliance with each applicable requirement" as required in a statement of basis.¹⁴⁰

The Permit Is Unlawful Because It Relies on Deficient and Erroneous Calculations.

IDEM Summary of Public Comments:

General Statement 7 - Emission Factors and Calculation Methodologies Used in Determining the Potential to Emit¹⁴¹

Several commenters expressed concern that the emission factors and calculation methodologies used in determining the Potential to Emit (PTE) are not correct, are flawed, or are not accurate.

IDEM Response

IDEM, OAQ understands that AP-42 emission factors represent average emissions for a source activity and that average emissions differ significantly from source to source. IDEM, OAQ also understands that some of the AP-42 emission factors used in the PTE calculations have a low emission factor quality rating (e.g., a rating of D or E) and may be less accurate, reliable, or robust than more highly-rated factors and may provide only an approximation of the average emissions.

IDEM, OAQ has evaluated the emission factors and calculation methodology used to determine the potential to emit of this proposed facility and has determined that the PTE calculations are sufficiently conservative for purposes of determining permitting level and applicability of state and federal rules and regulations.¹⁴²

Petitioner's Argument

This generalized response is, on its face, arbitrary and capricious and fails to provide the "legal and factual basis" for use of AP-42 factors as required by 40 C.F.R. § 70.7(a)(5).¹⁴³

EPA has recently cautioned states, sources, and consultants against misusing emission factors, especially from AP-42. A recent Enforcement Alert issued in November 2020 states, as follows:

This [sic] purpose of this Enforcement Alert is to remind permitting agencies, consultants,

¹³⁹ Sahu Report, p. 11-12.

¹⁴⁰ 40 C.F.R. § 70.7(a)(5); *see, e.g., In re Los Medanos Energy Center*, EPA Order in Response to Petition. 10-13 (May 24, 2004), *available at* https://www.epa.gov/sites/production/files/2015-08/documents/los_medanos_decision2001.pdf.³⁷ 68 Fed. Reg. at 9894-95.

¹⁴¹ Permit, ATSD, pp.16; *see also id.*, Peggy Billiard Comment 20, p. 132; April Risley-Penn Comment 23, p. 159; Indra Frank Comments, p. 177; Dr. James Rybarczyk, Comment 6, p. 200.

¹⁴² *Id.*, p.17, p. 205.

¹⁴³ Sahu Report, p. 4.

and regulated entities that improperly using AP-42 emission factors can be costly to their businesses, inefficient, and in some circumstances, can subject regulated entities to enforcement and penalties. The Environmental Protection Agency (EPA) is concerned that some permitting agencies, consultants, and regulated entities may incorrectly be using AP-42 emission factors in place of more representative source-specific emission values for Clean Air Act permitting and compliance demonstration purposes.

Permitting agencies, consultants, and regulated entities should be aware that even emission factors with more highly rated AP-42 grades of “A” or “B” are only based on averages of data from multiple, albeit similar, sources (*See* the Attachment for an overview of the history of AP-42 emission factors and the AP-42 emission factor rating system). Accordingly, *these factors are not likely to be accurate predictors of emissions from any one specific source, except in very limited scenarios.* While emission factors are helpful in making emission estimates for area-wide inventories for specific source types, AP-42 provides the following warning:

“Use of these factors as source-specific permit limits and/or as emission regulation compliance determinations is not recommended by EPA. Because emission factors essentially represent an average of a range of emission rates, approximately half of the subject sources will have emission rates greater than the emission factor and the other half will have emission rates less than the factor. As such, a permit limit using an AP-42 emission factor would result in half of the sources being in noncompliance.”¹⁴⁴

EPA must object to the Permit because it is based on deficient emissions calculations that may underestimate the amount of emissions for proper PSD permitting. Specifically, IDEM used AP-42 emission factors for the Waelz kilns, feed dryer, reciprocating internal combustion engines, natural gas heaters, fuel oil storage, and fugitive dust.¹⁴⁵ If IDEM intended to use average factors from AP-42 from these sources as opposed to maximum or not-to-exceed vendor and manufacturer guarantees, it had the obligation to modify such average factors to derive corresponding maximum factors, especially for those with poor quality ratings (such as using conservative multipliers to convert average factors to maximum factors consistent with uncertainty and variability in the underlying data sets that the respective AP-42 factors are derived from) before using the poorly rated, average AP-42 factors to estimate PTE.¹⁴⁶

As noted above, IDEM acknowledged these flaws with the Permit’s dependence on unreliable AP-42 emissions factors in its Response to Comments but did not change or supplement its methodology for calculating the Plant’s emissions potential and simply proclaimed the Permit’s emissions calculations to be “sufficiently conservative” without justification or any analysis let alone sufficient analysis.¹⁴⁷ These emission factors serve as a basis for the Permit and for IDEM’s conclusions that the Plant is a Synthetic Minor as opposed to a PSD source. It is possible that use of proper emission factors may have resulted in PTE of some regulated NSR pollutants to be greater than 250 tons per year, making the Plant a major source regardless of the secondary metal production classification discussed *supra*. Also, WSP would then have been *required* to submit estimates of greenhouse gases (GHG), especially methane and nitrous oxide, which are powerful

¹⁴⁴ Exhibit O, p.1 (emphasis added).

¹⁴⁵ Draft Permit, Technical Support Document, Appendix A, Emissions Calculations.

¹⁴⁶ Sahu Report, p. 6.

¹⁴⁷ *Id.*

GHG that can be emitted from the Waelz process. As it stands, there is no information available to IDEM or the public about WSP's GHG emissions nor whether they would be subject to BACT under PSD.¹⁴⁸

The Permit is Unlawful because It Fails to Assure Continuous Compliance with Emission Limitations.

IDEM Summary of Public Comments:

General Statement 6 - Air Monitoring, Compliance Determination/Monitoring, and Stack Testing¹⁴⁹

Several commenters stated that either ambient air monitors at or downwind of the WSP property line and/or continuous emission monitoring systems (CEMS) on all stacks should be required for various pollutants (particulate, fugitive dust, VOC, organic HAPs, metal HAPs, dioxins and furans (D/F), radionuclides/radioactive emissions) and some commenters requested that the monitoring data be made available to the public.

Several commenters stated that the stack testing requirements contained in the permit for various pollutants (PM, PM10, PM2.5, lead, manganese, chromium, mercury, and dioxins and furans (D/F) was not sufficient and should be required on a more frequent basis (e.g., quarterly, or annually).

IDEM Response

There are no applicable state or federal rules that require a continuous emission monitoring system (CEMS) ... for emissions from this source.

IDEM, OAQ has determined that the initial and 5-year repeat stack testing requirements included in the permit are sufficient to demonstrate compliance with the PM/PM10/PM2.5, lead, manganese, and chromium, dioxan/furan emission limitations.

Condition D.2.5 of the proposed permit is revised to require testing for mercury emissions from each of the Waelz Kilns Product Collectors (PC1 and PC2) no later than 180 days after start-up of Waelz Kiln #1 and then 180 days after startup of Waelz Kiln #2 and then every 5 years from the date of the most recent IDEM-approved test.¹⁵⁰

Petitioner's Argument

EPA must object to the Permit because it does not ensure "continuous compliance" as required by 326 I.A.C. 2-7-5(5), and *where an applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring*, the Permit must contain "*such periodic monitoring specifications sufficient to yield reliable data from the relevant time period that are representative*

¹⁴⁸ Permit ATSD, pp. 3-4.

¹⁴⁹ Permit ATSD, p. 11; *see also id.*, Malcom Jarrell Comment No. 1, 2 and 3, pp. 62-67; Lor Redweik Comment No. 2, p. 109; Peggy Billiard Comment No. 19, p. 131, Comment No. 23, p. 134; Julie Lowe Comment No. 1, p.138; Sharon Strasser Comment No. 1, p. 147; Patrick Kleckner Comment No. 1, p. 163; Dr. Indra Frank, Comment No. 1, p. 177; Dr. James Rybarczyk No. 5, p. 196 and 13, p. 221;

¹⁵⁰ Permit, ATSD, p.14.

*of the source's compliance with the Part 70 permit Such monitoring requirements shall assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement.”*¹⁵¹ Also in its response to the public comments, IDEM failed to provide a “reasoned explanation for why the selected monitoring... requirements are sufficient to assure the facility’s compliance with each applicable requirement.”¹⁵²

EPA’s Inspector General recently found that EPA provided a lack of oversight of synthetic minor permits.¹⁵³ Clear, enforceable monitoring requirements are essential to ensuring that sources that are minor due only to emission controls and limits are in continuous compliance because excess emissions could lead WSP to exceed PSD thresholds.¹⁵⁴

Fundamentally, the means of monitoring and testing and their frequency should be based on the underlying variability of the emissions from a source or activity. That variability is inherent in emissions data is widely recognized including by EPA.¹⁵⁵ Therefore, proper monitoring requires that the monitoring method should be able to track and capture that variability. This is a matter of basic engineering and measurement; one simply cannot use a single measurement or a measurement once every five years and capture variability and therefore cannot meet the burden of being adequate for demonstrating continuous compliance.¹⁵⁶ Therefore, if IDEM is proposing to use a very infrequent testing regimen such as in this Permit, it has the burden of showing why the underlying variability is so minimal that the infrequent test frequency is proper. IDEM has provided no such demonstration.

The Permit is inadequate to demonstrate such continuous compliance. Since the emissions of pollutants (which depend on a myriad of process, control device and other factors) are never constant, the obvious choices for direct monitoring are the use of Continuous Emissions Monitoring Systems (CEMS) for pollutants such as NO_x, SO₂, VOC, CO, filterable PM/PM₁₀/PM_{2.5}, and for various HAPs, including mercury since CEMS are readily available for these pollutants.¹⁵⁷ The monitoring provisions in the Permit include no CEMS at all except for opacity monitoring in a few instances, which require Continuous Opacity Monitors (COMS).

¹⁵¹ 326 I.A.C. 2-7-5(5)(ii)(emphasis added).

¹⁵² 40 C.F.R. § 70.7(a)(5); *See, e.g., In re Los Medanos Energy Center*, EPA Order in Response to Petition. 10-13 (May 24, 2004), *available at* https://www.epa.gov/sites/production/files/2015-08/documents/los_medanos_decision2001.pdf.³⁷ 68 Fed. Reg. at 9894-95.

¹⁵³ <https://www.epa.gov/office-inspector-general/report-epa-should-conduct-more-oversight-synthetic-minor-source-permitting>.

¹⁵⁴ *Id.* (“We also found that 26 limits did not specify the method for assessing compliance. In addition, 55 limits did not have sufficient monitoring requirements to determine whether the facility’s assumed pollution reduction from pollution control devices was being achieved. This could result in a synthetic-minor facility emitting pollutants at or above major-source levels without being detected.”)

¹⁵⁵ *See* EPA Enforcement Alert, Exhibit O, p. 2 (“It is also important to understand that there is a great deal of variability in the emissions data that are used to generate the emission factors. This variability is not necessarily reflected in the emission factor. AP-42 describes this as follows: ‘The extent of between-source variability that exists, even among similar individual sources, can be large depending on process, control system, and pollutant. Although the causes of this variability are considered in emission factor development, this type of information is seldom included in emission test reports used to develop AP-42 factors. As a result, some emission factors are derived from tests that may vary by an order of magnitude or more. Even when the major process variables are accounted for, the emission factors developed may be the result of averaging source tests that differ by factors of five or more...’)(internal citation omitted).”

¹⁵⁶ Sahu Report, p. 7.

¹⁵⁷ *Id.*

While IDEM baldly asserts there are no rules requiring CEMS, rule 326 I.A.C. 2-7-5(5) not only provides ample authority but in fact demands that CEMS be required, at a minimum on the units with the greatest emissions, to ensure the source is in continuous compliance.

The following is a reasonable framework: on a pollutant-by-pollutant basis, the Title V permit should require CEMS for all sources whose aggregate annual and short-term emissions account for, say, 50% of the facility's total emissions; if some of these sources are identical, a CEMS can be installed on one of the identical sources; the CEMS should be required on such sources for a period of two years of representative source operation. If the data collected for two years of representative facility and source operation shows that the actual emissions for that pollutant/source combination is consistently less than 50% of the applicable emission limit(s) including variability, then the requirement to use CEMS can be removed, and the source can revert to stack testing alone with a frequency that would be based on the observed variability using the CEMS for the two years. If, on the other hand, the pollutant is emitted at more than 50% of the emissions limit for that source, the use of CEMS would continue.¹⁵⁸ This approach strikes a proper balance between the use of CEMS, where it is available, to collect the most representative source-specific emissions data including variability, while addressing costs, that is, allowing its discontinuance when there is sufficient margin between actual emissions and emission limit(s) that apply for that pollutant from that source.

Regarding the stack testing provisions, simply requiring an arbitrary frequency of monitoring or stack testing such as once every five years without understanding the variability of the emissions in question is meaningless.¹⁵⁹ A stack test, which lasts just a few hours, cannot provide sufficient representative data, especially for sources whose emissions can vary significantly, for all of the non-tested hours.¹⁶⁰

While parametric monitoring can be used in conjunction with stack testing to predict emissions during non-testing periods, such monitoring is sufficiently predictive only if certain basic conditions are met: (i) that all of the parameters that affect emissions (or most of them) of a particular pollutant are identified; and then (ii), if possible, robust, predictive, mathematical relationships are established between the parameter(s) and the pollutant in question across the full range of parameter/pollutant spaces. This method actually requires significant data collection to first identify the parameters and then quantify the relationships between the parameters and the pollutant emissions, which would need to be collected using CEMS to begin with. As such, given these resource-intensive conditions, emissions should be measured directly using CEMS whenever possible.¹⁶¹

The monitoring provisions contained in the Permit are inadequate to meet the “continuous compliance” standard, both with regards to frequency and the weakness of surrogate parameters. The monitoring requirements for the baghouses and scrubbers are summarized from the Permit:

Receiving Building (RB), Pelletizing Building (PB), Pellets Receiving Building (PRB), Carbon/Limestone Receiving Building (CB), WIP Building (WIPB), Truck Unloading, Rotary Dryer, Rail Dryer and WIP Conveyor:

¹⁵⁸ *Id.*, p. 7-8.

¹⁵⁹ *Id.*, p. 9.

¹⁶⁰ *Id.*

¹⁶¹ *Id.*

- Perform initial and 5-year repeat stack testing for particulate matter (PM, PM10, and PM2.5), lead, manganese, and chromium emissions from each of the emission units controlled by Baghouses BH3 through BH10 and Scrubber SCB1 and SCB2 pursuant to permit Condition D.1.5;
- Perform initial and 5-year repeat stack testing for dioxin/furan (D/F) emissions from the Rotary Dryer controlled by Baghouse BH9 and the Rail Unloading (RU) controlled by Baghouse 10 pursuant to permit Condition.¹⁶²

The 5-year frequency requirement is arbitrary and capricious and cannot ensure continuous compliance, even considering the surrogate parameters noted in the permit, namely the operation of the bag leak detection system (whose operating parameters are not required to be correlated with the emissions above); the daily visible emissions monitoring requirement; and the requirement to monitor the flow rate of the wet scrubbers once per day.¹⁶³ While these are all good indicators of whether the underlying controls (i.e., fabric filters and the scrubbers) are operating, the permit does not require that relationships between these parameters and the emissions of the pollutants noted above be first established. Thus, a crucial predicate and requirement of parametric monitoring is missing.¹⁶⁴

Regarding the two Waelz kilns and the transition buildings, the monitoring provisions are summarized from the Permit:

Waelz Kilns (KLN1 and KLN2) and Transition Buildings (TB1 and TB2):

- Perform initial and 5-year repeat stack testing for particulate matter (PM, PM10, and PM2.5), lead, manganese, and chromium emissions from each of the Transition Buildings (TB1 and TB2) Dust Collectors 1 and 2 (BV1 and BV2) and Waelz Kilns Product Collectors (PC1 and PC2);
- Perform initial and 5-year repeat stack testing for mercury emissions from each of the Waelz Kilns Product Collectors (PC1 and PC2);
- Perform initial and 5-year repeat stack testing for dioxin/furan (D/F) emissions from each of the Waelz Kilns Product Collectors (PC1 and PC2).¹⁶⁵

Here again, the five-year frequency is inadequate for the same reasons noted above. Furthermore, the comments on the surrogate parameters *supra* also apply in this case.

Stack test monitoring frequency must be established based on the variability of the underlying emissions in order to ensure continuous compliance.¹⁶⁶ IDEM cannot assume that this variability is so low that the once per five-year testing frequencies are appropriate. To the extent that IDEM believes that it has process knowledge or data showing that the underlying variability of emissions of each of the pollutants noted above from each of the sources noted, it should have been provided in the agency record.¹⁶⁷ Instead, as IDEM's responses in the ATSD show, it has simply brushed

¹⁶² Permit, Section D.1.5.

¹⁶³ Sahu Report, p. 10.

¹⁶⁴ *Id.*

¹⁶⁵ Permit, Section D.2.5.

¹⁶⁶ Sahu Report., p. 10-11.

¹⁶⁷ *Id.*, p. 11.

aside prior public comments asking for more frequent monitoring by asserting that these frequencies are “sufficient.”¹⁶⁸

Regarding testing for dioxin/furans, very little is known about the level of the creation and emissions in the Waelz process, as admitted by WSP:

There are papers in the international literature that suggest that Waelz Kilns can have emissions of dioxins and furans (D/F). However, there are no reliable published emission factors for D/F from this process and D/F are notoriously difficult to predict or estimate on a theoretical or traditional emission factor basis given the numerous and complex mechanisms at play in their potential formation. Without reliable emission factors, potential emissions cannot be accurately estimated...

However, it cannot be said that WSP will have zero D/F emissions... the WSP operation mode and control design combination applies [sic] practices that greatly minimize the potential for D/F formation and emissions. There are no reliable emission factors for D/F emissions for this process, which does not lend itself to an emission factor approach in this first instance. Performance of an initial stack test on each kiln for D/F emissions will confirm that emissions levels, if any, are minimal as anticipated.¹⁶⁹

IDEM states in the Permit ATSD, with no basis whatsoever, that “Since WSP will operate the Waelz process in basic mode and control particulate matter emissions ..., the D/F emissions are expected to be very low (minimal) and not pose a threat to public health or the environment.”¹⁷⁰ What is known is that dioxins/furans are highly toxic, can cause cancer and reproductive and developmental problems in humans, they bioaccumulate in the human body, and are caused by combustion among other processes.¹⁷¹ While IDEM rightly acknowledged that a single stack test proposed by WSP was insufficient and added testing every five years, given the lack of knowledge about dioxin/furans and the sensitivity of the affected population, IDEM had a duty to require more frequent stack tests to establish a baseline of emissions, require more frequent testing, and ensure the protection of public health through additional analysis like a health risk assessment. The Permit also abrogates Indiana’s preconstruction permit rules that provide that the Commissioner shall not issue any permit that is “not protective of the public health.”¹⁷² IDEM cannot protect public health by issuing a permit that is based on speculation without sufficient testing to confirm or deny the emissions and their public health effects.

Moreover, Petitioner and the EJ communities that will be impacted by the WSP emissions are entitled to compliance measures that ensure, on a *continuous* basis, that WSP’s emissions will not add significantly and unfairly to the pollution burden they already face. According to EPA, “Environmental Justice” is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies, and “Fair Treatment” means *no*

¹⁶⁸ Permit ATSD, p. 15.

¹⁶⁹ Permit ATSD, p.39.

¹⁷⁰ Permit, ATSD, p.41.

¹⁷¹ <https://www.epa.gov/dioxin/learn-about-dioxin>; https://www.cdc.gov/biomonitoring/pdf/dioxinlikechemicals_factsheet.pdf. See also Permit ATSD, Comments of Dr. Indra Frank, pp. 177-183.

¹⁷² 326 I.A.C. 2-1.1-5(5).

group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.¹⁷³ Thus, while IDEM may try to justify a five-year testing schedule for toxic emissions as being “sufficient,” what is sufficient for a plant located in a community with low Environmental Justice indicators or one with significant resources to minimize the impacts of the plant is not necessarily sufficient for a plant located near a population already burdened with pollution, contending with existing health challenges, and without the resources to move or otherwise minimize the impacts.¹⁷⁴ The Permit’s compliance measure should be strengthened to protect Petitioner’s members and the larger community.

The Permit Is Unlawful Because Its Issuance Violated Public Participation Requirements.

A permit may be issued only if the permitting authority has complied with public participation requirements.¹⁷⁵ Indiana’s operating permit rules require IDEM to provide the public with “information sufficient to notify the public as to the emission implications” of an air permit prior to issuing that permit.¹⁷⁶ IDEM withheld from Petitioner crucial public records related to the Plant emissions calculations, therefore, Petitioner and the public were unable to evaluate and comment on the information contained in those records during the public comment period.

Petitioner filed public records requests regarding WSP’s emissions on June 17, 2020, and December 29, 2020.¹⁷⁷ IDEM has never provided the requested documents to Petitioner. By withholding these public records, IDEM failed to provide the public with “information sufficient to notify the public as to the emissions implications” of the Permit in violation of the federally-approved Indiana Plan.¹⁷⁸ One commentor noted the lack of full emissions disclosure, providing a mass balance calculation to show that not all emissions were accounted for in the Permit.¹⁷⁹

IDEM similarly withheld public records regarding emissions calculations requested by citizen petitioners in *Objection to the Issuance of PSD/New Source Construction and Part 70 Operating Permit No. T147-39554-00065 Riverview Energy Corporation Dale, Spencer County, Indiana*, before the Indiana Office of Environmental Adjudication.¹⁸⁰ In that case, the administrative law judge found that IDEM had violated 326 I.A.C. 2-7-17(c)(1)(C)(iv) when it failed to respond to petitioners’ public records request for emissions information until after the public comment period and only shortly before the final permit was issued. The facts are identical to the instant case except that Petitioner here never received the documents.

EPA previously has explained that “the unavailability during the public comment period of information needed to determine the applicability of or to impose an applicable requirement also may result in a deficiency in the permit’s content” and therefore may warrant an objection to the permit.¹⁸¹ As the judge in *Riverview* noted, “An agency commits serious procedural error when it

¹⁷³ <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice> (emphasis added).

¹⁷⁴ See Exhibit F.

¹⁷⁵ See 40 C.F.R. § 70.7(a)(1)(ii), (h).

¹⁷⁶ 326 I.A.C. 2-7-17(c)(1)(C)(iv).

¹⁷⁷ Exhibit O.

¹⁷⁸ 326 I.A.C. 2-7-17(c)(1)(C)(iv).

¹⁷⁹ Permit ATSD, pp. 200-206 (Dr. James Rybarczyk, Comment 6).

¹⁸⁰ Cause No. 19-A-J-5073 (January 28, 2020), Exhibit P, p. 6.

¹⁸¹ See e.g., *In the Matter of Cash Creek Generation, LLC* Order at 9.

fails to reveal portions of the technical basis for a proposed rule in time to allow for meaningful commentary."¹⁸² Because IDEM did not make critical information available during the public comment period, EPA must object to the Permit.

IV. Conclusion

For the reasons enumerated above, the Permit for Waelz Sustainable Products' proposed Plant is unlawful under the Clean Air Act and Title V and EPA must object to its issuance.

Date: August 6, 2021

/s/ Jim Brugh

Jim Brugh
Cass County Citizens Coalition
204 Fourth Street
Logansport, Indiana 46947

/s/ Kathryn A. Watson

Kathryn A. Watson
Katz Korin Cunningham
334 North Senate Avenue
Indianapolis, Indiana 46204
kwatson@kkclegal.com
Counsel for Petitioner

¹⁸² *Riverview* at 6 (quoting *Connecticut Light & Power Co. v. Nuclear Regulatory Com.*, 673 F.2d 525, 530-531, 1982 U.S. App. LEXIS 20990, 218 U.S. App. D.C. 134).