ENVIRONMENTAL LAW & POLICY CENTER

June 26, 2023

BY EMAIL ONLY

Ms. Michele Boner
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Re: Comments on IDEM's Draft Documents in Compliance with the Redesignation of Chicago (WI-IL-IN) as "Moderate" Nonattainment for 2015 8-Hour Ozone NAAQS

Dear Ms. Boner:

The Clean Air Act required the Indiana Department of Environmental Management ("IDEM") to reduce ground-level ozone in northern Lake and Porter Counties below health-based limits by August 3, 2021. IDEM failed to meet that deadline. As a result, EPA re-designated northern Lake and Porter Counties from "marginal nonattainment" to the more serious "moderate nonattainment." As such, the Clean Air Act requires IDEM to prepare and obtain EPA's approval of a plan to attain the ozone standard no later than August 3, 2024. But IDEM's draft *Attainment Demonstration and Technical Support Document* ("*Attainment Demonstration*") proposes no additional measures to reduce ozone. This does not satisfy the goals of the Clean Air Act and fails to address a serious public health problem facing the overburdened residents of Northwest Indiana.

The Environmental Law & Policy Center ("ELPC"), on behalf of itself and its members, submits these comments on IDEM's draft *Attainment Demonstration* to encourage IDEM to impose additional control measures to expeditiously attain and maintain the 2015 8-hour ozone National Ambient Air Quality Standard ("NAAQS") for northern Lake and Porter Counties. After summarizing the regulatory background and clarifying that ozone levels are increasing, we discuss each of the four requests IDEM makes of EPA to approve its *Attainment Demonstration*. Finally, we recommend that IDEM revise its *Attainment Demonstration* to reduce emissions from the largest polluters along the lakeshore – the integrated steel mills and their co-dependent industries. IDEM can achieve these reductions through increased inspections and enforcement, and in revisions to the facilities' Part 70 permits upon renewal. IDEM's *Attainment Demonstration* should assure improved air quality for local residents and visitors to Indiana's Lake Michigan lakeshore. ELPC's comments also seek to increase public awareness of IDEM's efforts to attain Clean Air Act air quality standards. To promote this awareness, ELPC requests that IDEM hold a public hearing on June 28, 2023.

ELPC is the Midwest's leading public interest environmental legal advocacy organization and works to protect the environment and public health. ELPC's work includes a focus on industrial and other major sources of pollution affecting the health and welfare of residents along Lake Michigan's southern shoreline in Northwest Indiana. As part of this work, ELPC tracks air emissions reports from major industries along the Indiana lakeshore, including their compliance with federal and state environmental regulations. In doing so, ELPC seeks to clean up, not close, the industrial facilities – which have long been drivers of the regional economy – requiring industry to play by the rules and implement the latest emissions control technologies to reduce pollution and improve the landscape where people live, work, and play.

Background

The NAAQS are health-based air quality limits that serve as the foundation of the Clean Air Act. Each State must adopt regulations for the implementation, maintenance, and enforcement of the NAAQS. 42 U.S.C. § 7410(a). These state regulations, referred to collectively as a State Implementation Plan ("SIP"), must be approved by EPA before a state can issue air permits and carry out the other functions of the Clean Air Act. Indiana submitted its initial implementation plan in 1972 and it is regularly revised and approved by EPA.[1]

At issue here is EPA's current NAAQS for ground-level ozone as measured on an 8-hour average. EPA had previously adopted a NAAQS for ozone on a 1-hour and 8-hour average, but lowered the 8-hour concentration limit to 0.070 parts per million in 2015.[2] EPA established this lower limit in part to "protect the large majority of the population, including children and people with asthma." *Id.* Ozone, however, is not emitted but is formed in the atmosphere on warm, sunny days in the presence of two other pollutants: nitrogen oxides ("NOx") and volatile organic compounds ("VOCs"), sometimes referred to as ozone "precursors." The only way to reduce ozone concentrations is to reduce the emissions of NOx and VOCs.

The health impacts of ozone exposure are well-documented.[3] Studies show that even brief ambient exposure to ozone is associated with asthma exacerbations, emergency room visits, hospital admissions, and deaths, particularly in children, adults who are active outdoors, and those with asthma.[4] Ozone exposure is also associated with increased risk of hospitalization for

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[1] 37 Fed. Reg. 10863 (May 31, 1972); 40 C.F.R. Part 52, Subpart P (Indiana SIP).

[2] EPA revised the 8-hour ozone NAAQS "based on an integrative assessment of an extensive body of new scientific evidence, which substantially strengthens what was known about O_3-related health effects in the last review." 80 Fed. Reg. 65,292, 65,294 (Oct. 26, 2015).

[3] See: https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution

[4] Patrick L. Kinney, *The Pulmonary Effects of Outdoor Ozone and Particle Air Pollution*, 20 Seminars in Respiratory and Critical Care Medicine, 1999 at 601. *See also*, Stephanie M. Holm, *Systematic Review of Ozone Effects on Human Lung Function, 2013 Through 2020*, 161 CHEST, 190-201 (January 2022) (reviewing studies that consistently demonstrate that even short-term low-level ozone exposure decreases children's lung function).

people with acute myocardial infarction, coronary atherosclerosis, and pulmonary heart disease.[5] In addition, life expectancy increases when ozone concentrations are held well below current standards.[6] And those standards may be too high to adequately protect human health. Instead, the "critical threshold where ozone significantly increases respiratory mortality is 31 ppb" – less than half of the current 8-hour limit.[7]

In 2018, EPA designated the Chicago area, which included portions of Wisconsin, Illinois, and the northern half of Lake County, Indiana, as being in "marginal nonattainment" of the 2015 8-hour ozone NAAQS.[8] This lowest nonattainment designation is defined as an 8-hour ozone concentration of between 0.071 and 0.081 ppm. EPA gave the Chicago designated area and other marginal nonattainment areas until August 3, 2021 to reduce ozone concentrations below 0.070 ppm. 40 C.F.R. § 51.1303(a) (Table 1). Each state within the Chicago designated area was required to revise its implementation plan to reduce ozone precursors sufficient to attain air quality below the NAAQS limit as expeditiously as practicable but not later than the deadline.

To determine whether an area has attained the NAAQS, EPA relies on the "design value" – the three-year average of the fourth-highest ozone measurements for an 8-hour period. *See* 40 CFR part 50, Appendix U. The Chicago area's design value, including northern Lake and Porter counties, did not fall below the NAAQS by the August 3, 2021 deadline, but continued (and still continues) to exceed the NAAQS limit. Consequently, on November 7, 2022, U.S. EPA reclassified the northern portions of Lake and Porter Counties from "marginal" to "moderate" nonattainment and gave IDEM three more years to reach attainment – until August 3, 2024.[9]

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[5] Petra J.M. Koken, et al., *Temperature, air pollution, and hospitalization for cardiovascular diseases among elderly people in Denver*, 111 Environmental Health Perspectives, 1312, 1316 (August 2003).

[6] Joel D. Schwartz, *A Direct Estimate of the Impact of $PM_{2.5}$, NO_2, and O_3 Exposure on Life Expectancy Using Propensity Scores*, 32 Epidemiology, 469-476 (July 2021) (estimating a 0.15 year increase in life expectancy over a decade by reducing O_3 emissions from 45 to 35 ppb).

[7] Ziheng Liu, Xi Chen and Qinan Lu, *Blowin' in the Wind of an Invisible Killer: Long-Term Exposure to Ozone and Respiratory Mortality in the United States*, IZA Discussion Paper No. 15981, (March 7, 2023) at 3. *See also* Sverre Vedal et al., *Air Pollution and Daily Mortality in a City with Low Levels of Pollution*, 111 Environmental Health Perspectives, (January 2003) at 45 (finding that even low concentrations of air pollutants such as ozone are associated with adverse effects on mortality); Francesca Dominici, et al., *Assessing Adverse Health Effects of Long-Term Exposure to Low Levels of Ambient Air Pollution: Implementation of Causal Inference Methods*, 211 Research Reports Health Effects Institute, 1-56 (January 2022) (finding increased health risk at O_3 concentrations greater than 0.045 ppm.

[8] 83 Fed. Reg. 25,776, 25,804 (June 4, 2018). The northern half of Porter County was later added to the Chicago designated area. 86 Fed. Reg. 31,438, 31,440 (June 14, 2021).

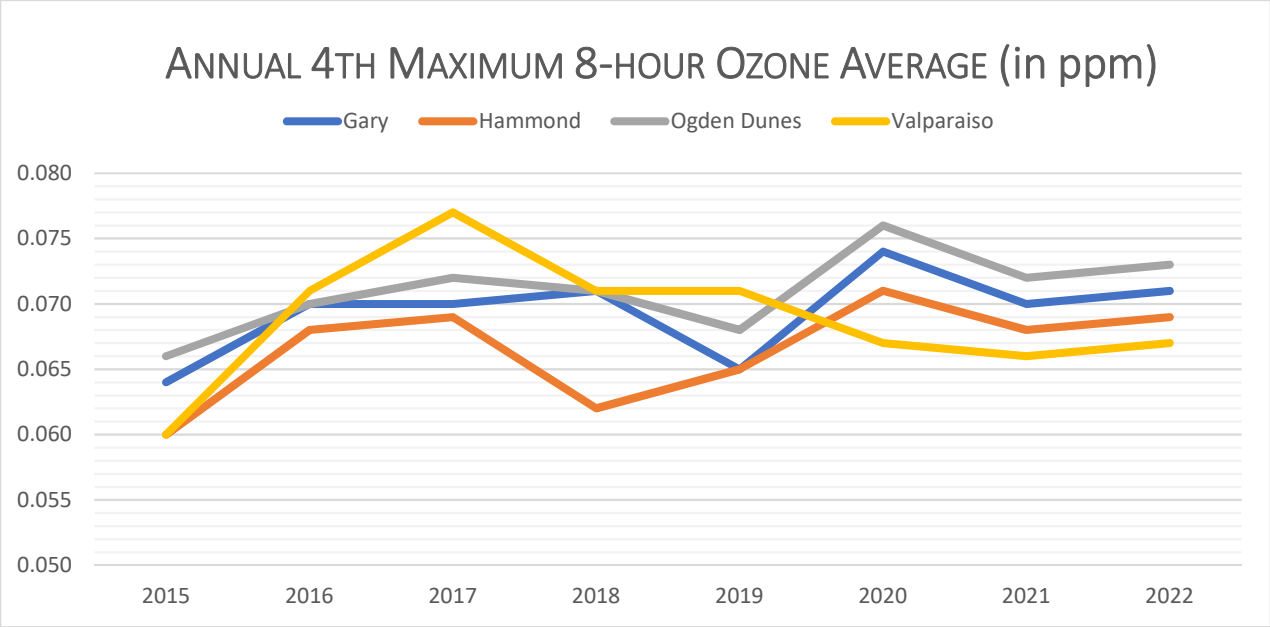
[9] 87 Fed. Reg. 60,897, 60,918 (Oct. 7, 2022).

Ambient Ozone Levels in Lake and Porter Counties Are Increasing

Comment: IDEM's *Attainment Demonstration* should recognize and address the excess and increasing levels of ozone in Lake and Porter Counties.

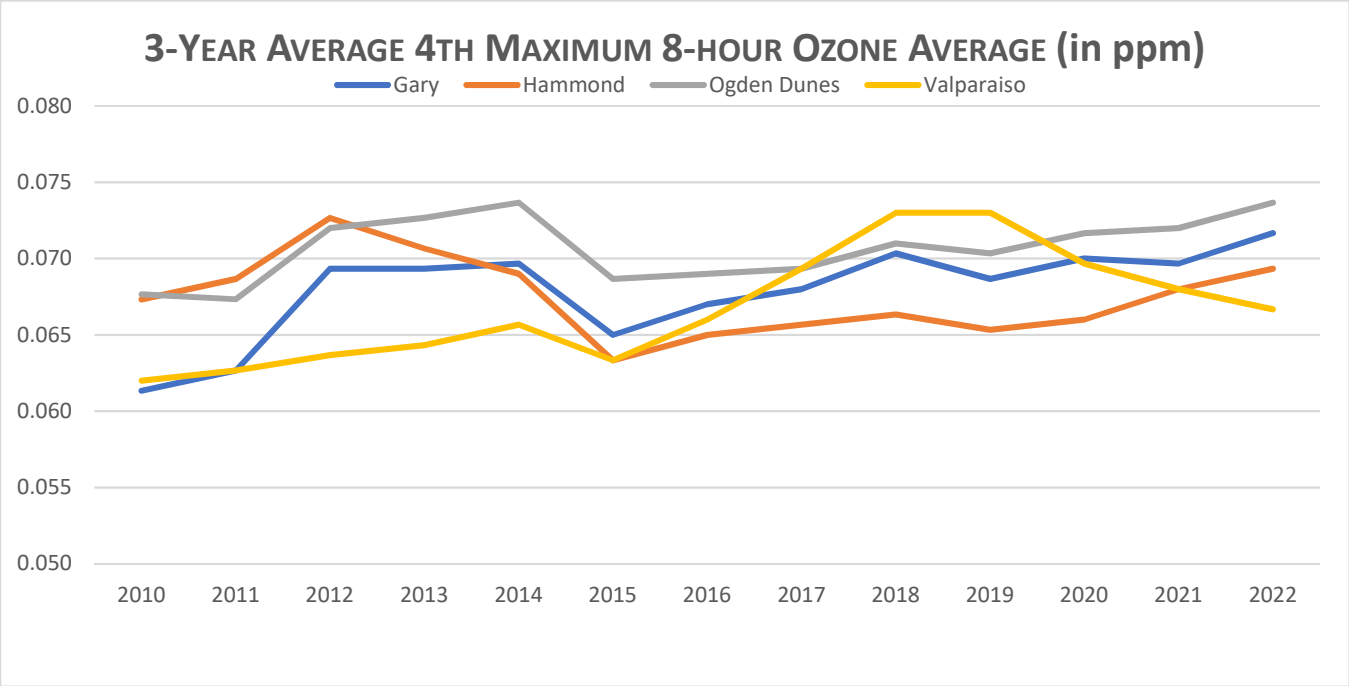
IDEM's *Attainment Demonstration* ignores the significance and trend of the Northwest Indiana ambient air quality measurements in favor of data from the Chicago nonattainment area as a whole, and modeled results prepared by the Lake Michigan Air Directors Consortium ("LADCO"), of which IDEM is a member. IDEM asserts that "[m]onitoring data shows that overall area design values are decreasing, air quality peak values are declining, and the number of exceedances is falling." *Attainment Demonstration*, Section 2.11.3. IDEM, however, is only responsible for attainment of the 8-hour ozone NAAQS for Lake and Porter Counties and the monitors there show that air quality peak values are increasing. *Id.*, Chart 4.1, at 29.

Ambient measurements of ozone are taken by EPA-approved monitors – two in Lake County (in Hammond and Gary) and two in Porter County (in Ogden Dunes and Valparaiso). The general location of these four monitors is shown in Figure 4.1 in the *Attainment Demonstration*. Every summer, one or more of these monitors records 8-hour average ozone concentrations in excess of the NAAQS limit of 0.070 ppm. By graphing the 4th-highest 8-hour ozone concentration measured at each of the Indiana air quality monitors for each year since 2008, the data show an overall increase in 8-hour ozone levels.[10] The monitors in Gary and Ogden Dunes, which are much closer to the lakeshore than those in Hammond and Valparaiso, tend to have higher ozone concentrations. The reason for this difference is discussed below.



10 Data gathered from EPA AirData Air Quality Monitor website: https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=5f239fd3e72f424f98ef3d5def547eb5&extent=-146.2334,13.1913,-46.3896,56.5319

Using this same data to plot the 3-year average used as the design value screening tool by EPA to satisfy its attainment standard, we see a similar increase over the same time period:



IDEM's Proposed SIP Revisions

States with areas in moderate nonattainment of the NAAQS must revise their implementation plans to make reasonable further progress toward attaining the NAAQS in compliance with Sections 172 and 182 of the Clean Air Act.[11] IDEM drafted this *Attainment Demonstration* to comply with Sections 172 and 182. In it, IDEM asks EPA to approve of its SIP revisions that adopt no additional control measures to attain the 2015 8-hour ozone standard. In doing so, IDEM seeks EPA approval of four SIP revisions, each of which ignores Indiana's responsibility to protect public health.

I. IDEM asks EPA to certify that it has adopted all reasonably available control measures to demonstrate attainment as expeditiously as practicable and that no additional measures that are reasonably available will advance the attainment date, in compliance with CAA Sections 172(c)(1) and 182(b)(2). *Attainment Demonstration*, Section 2.1.

Comment: By overlooking measures to control emissions from point sources, IDEM has not established that it has adopted all reasonably available control measures and its hyper-technical reading of the regulations abdicates IDEM's responsibility to attain the NAAQS as expeditiously as practicable to protect human health.

[11] 42 U.S.C. §§ 7502(b) and 7511a(b).

IDEM asserts that it has complied with Sections 172(c)(1) and 182(b)(2) because it "has adopted all reasonable and available control measures to demonstrate attainment as expeditiously as practicable and that no additional measures that are reasonably available will advance the attainment date." *Attainment Demonstration*, Section 2.1, at 5. In support of this assertion, IDEM relies on a study prepared for LADCO intended to identify and evaluate NOx and VOC emission controls to reduce ozone concentrations throughout the Chicago area.[12] Although IDEM touted this study as a "comprehensive assessment of candidate control options," the study did not consider point sources, such as the large lakeshore industries with Part 70 air emission permits, "because point source emission control analyses are expected to be performed on an as-needed basis by state/region specific agency staff."[13] As discussed below, point sources are some of the largest sources of ozone precursors. Without identifying and evaluating NOx and VOC emission controls from large point sources, IDEM cannot demonstrate that it has adopted all reasonably available control measures (the Clean Air Act requirement sometimes referred to as "RACM.")

IDEM, however, concludes that such RACM demonstration is irrelevant because no further control measures can achieve attainment of the NAAQS by August 3, 2024:

> Additional control measures are required for RACM if they can advance the attainment date by a year or more. Any measure(s) advancing the attainment date by a year would have had to be in place by January 1, 2022. Even though some of the identified measures may provide NOx or VOC emissions reductions beyond what is currently required, they cannot advance the attainment date, as it has already passed. Therefore, no additional emissions control measures or reduction requirements are applicable for RACM for Indiana's portion of the Chicago nonattainment area under the 2015 ozone standard.

Attainment Demonstration, Section 2.1, at 7.

Admittedly, there is little time left to demonstrate attainment before the deadline of August 3, 2024, particularly since the ozone season runs through the end of August requiring attainment to be demonstrated this year. But given the increasing ozone concentrations in northern Lake and Porter Counties, IDEM must implement additional control measures if it is to ever reduce ozone concentrations below the NAAQS. Simply saying that any new control measures would not achieve attainment by August 3, 2024 does not satisfy the goal of the Clean Air Act.

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[12] *Attainment Demonstration*, Section 2.1, at 6 (citing https://www.ladco.org/technical/projects/ramboll-o3-%20precursors-contract-2020/).

[13] Ramboll US Consulting, Inc. *Final Report: Control of Ozone Precursor Emissions in the Great Lakes Region* (March 2021), at 1.

II. IDEM asks EPA to certify its emissions reporting rule, 326 IAC 2-6, as in compliance with CAA Section 182(a)(3)(B)(ii). *Attainment Demonstration*, Section 2.4; *Certification of Indiana's Emissions Reporting Rule 326 IAC 2-6 for the 2015 Ozone NAAQS* (Attachment G).

Comment: IDEM's emissions reporting rule satisfies Section 182(a)(3)(B), but IDEM fails to adequately enforce 326 IAC 2-6.

In order to identify where emission reductions could be made, states must submit "a comprehensive, ***accurate***, current inventory of ***actual emissions*** from all sources." 42 U.S.C. § 7511a(a)(1) (emphasis added). To do so, each state must provide a means for collecting and reporting these emissions. EPA initially certified IDEM's emissions reporting rule in 1994 and then approved IDEM's subsequent amendments to its emissions reporting rule.[14] Indiana's current emissions reporting rule would appear to continue to comply with CAA Section 182(a)(3)(B). The problem, however, is that IDEM is failing to properly apply and enforce its reporting rule.

EPA has long accepted estimated emissions using an approved estimation method, such as an emissions factor (an estimate of the rate at which a pollutant is released) divided by the production rate or throughput and factoring the control efficiency of any pollution controls. *See* 326 IAC 2-6-4(c)(5)(A)(ii). In some cases, this estimation may be as close to "actual emissions" as reasonably possible, but there are at least three circumstances in which these estimates may be inaccurate and should be corrected:

1) Facilities that track NOx and/or VOCs with continuous emissions monitoring systems ("CEMS") still appear to report total emissions using estimations based solely on throughput multiplied by an emissions factor rather than the actual emissions measured by the CEMs. For example, the Sinter Plant windbox scrubber stack at the Cleveland-Cliffs Burns Harbor steel mill is required to measure its VOC emissions using a CEMS. *See* Part 70 Permit T127-40675-00001, § D.4.5(a). Yet the annual emissions it reports on State Form 52052 in compliance with 326 IAC 2-6-4 continues to report its annual VOC emissions from this source (80.45 tons in 2021) based upon a site-specific emission factor and not CEMS data.[15]

2) Part 70 permittees are required to estimate actual emissions to "include upsets, downtime, and fugitive emissions." 326 IAC 2-6-4(c)(5)(A)(i). The term "upset" is undefined, and it is unclear how such emissions would be reported on State Form 52052. A review of facilities that experienced excess emissions did not appear to report such exceedances in their annual emissions reports. Some of these exceedances may be reported in the permittees' quarterly reports and others are identified through periodic stack tests. In either case, the facility is aware of the exceedance but may still

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[14] 59 Fed. Reg. 29,953 (June 10, 1994); 86 Fed. Reg. 31922 (June 16, 2021).

[15] Data from the quarterly CEMS reports for 2021 appeared to be consistent with the annual emissions report. We did not evaluate other years or other facilities with CEMS data.

be in negotiations with IDEM over any penalty or other enforcement. IDEM has no requirement in 326 IAC 2-6 to correct or amend their annual emissions statement after resolving enforcement actions involving exceedances.

3) The total emissions reported by each stationary source may not capture all emission sources or may simply miscalculate them, as demonstrated by subsequent inspections and enforcement actions that identify additional emissions. For example, BP's Whiting Refinery reported its 2021 total VOC emissions as being 419.7 tpy. In October 2019, EPA and IDEM conducted an inspection of the Whiting Refinery that identified significant and previously unreported benzene emissions. EPA estimated that its recently proposed Consent Decree with BP will reduce VOC emissions by 372 tpy.[16] It is unclear how much of this reduction BP previously reported to IDEM, but it seems unlikely that going forward BP will emit less than 50 tons of VOCs annually.

The purpose of IDEM's emissions reporting rule, 326 IAC 2-6, is to create an accurate inventory of actual emissions. While the rule itself satisfies the requirements of CAA Section 182(a)(3)(B), IDEM will not have an accurate inventory of actual emissions if facilities are allowed to estimate emissions from sources that measure emissions with CEMS, fail to report upsets and exceedances, or fail to identify all emissions sources. IDEM should improve its inspections and enforcement to ensure that all emissions are being reported.

To further improve the accuracy of emissions reports, IDEM should consider requiring all large sources of NOx and VOCs to install CEMS. In addition, IDEM should consider requiring installation of fence line monitors to confirm that all emissions from large stationary sources are being reported.

III. IDEM asks EPA to approve its updated base-year emissions inventory, submitted on September 10, 2021, with mobile emissions modeling updated to utilize EPA's most current model (MOVES 3.1), in compliance with CAA Section 182(a)(1). *Attainment Demonstration*, Section 2.3; *Revised 2017 Base-Year Emissions Inventory* (Attachment D).

Comment: IDEM's base-year emissions inventory satisfies Section 182(a)(1), but may lack accuracy as discussed above. Based on this inventory, IDEM should consider reducing NOx and VOC emissions from the most significant sources that cause high ozone concentrations.

IDEM's *Revised 2017 Base-Year Emissions Inventory*, in Attachment D, identifies all major source of NOx and VOC emissions in northern Lake and Porter Counties. According to Table 3.2 of the *Revised 2017 Base-Year Emissions Inventory*, point source emissions are the single largest source of NOx in both Lake and Porter Counties, contributing 65.4% and 68.7% respectively – and they are increasing. IDEM's Emissions Inventory Tracking System (EMITS) identifies 63 major sources of air pollution requiring a Part 70 air permit in Lake County and

[16] *See* https://www.justice.gov/opa/pr/justice-department-and-epa-announce-settlement-reduce-hazardous-air-emissions-bp-products

another 20 in Porter County. These are not just any stationary point sources, but include six facilities in the top 20 of the highest-emitting NOx sources in Indiana.[17] According to IDEM's EMITS summary data, the top ten (of 83) point source emitters in Lake and Porter Counties emit 96% of all NOx from point sources.[18]

Table 1: Top ten point sources of NOx emissions in Lake and Porter Counties (in tons per year)

Cleveland-Cliffs Burns Harbor LLC	8,270.0
US Steel Corporation Gary Works	3,395.3
Cleveland-Cliffs Steel LLC (Indiana Harbor West)	3,025.8
BP Products North America Inc Whiting Refinery	1,270.3
Carmeuse Lime Inc	1,015.4
Cleveland-Cliffs Steel LLC (Indiana Harbor East)	998.1
Indiana Harbor Coke Company LP contract	721.1
W.R. Grace & Co. - Conn.	158.4
NLMK Indiana	114.8
Portside Energy LLC	110.8

Total: 19,080 (96%)

The contribution of VOCs from large point sources is slightly lower. According to Table 3.2 of the *Revised 2017 Base-Year Emissions Inventory*, point source emissions are the second highest contributor to VOC emissions in Lake and Porter Counties, contributing 35.5% and 10.2% respectively. According to IDEM's EMITS summary data, the top ten (of 83) point source emitters in Lake and Porter Counties 71% of VOCs from point sources.

Table 2: Top ten point sources of VOC emissions in Lake and Porter Counties (in tons per year)

Cleveland-Cliffs Steel LLC (Indiana Harbor West)	625.2
Cleveland-Cliffs Burns Harbor LLC	468.6
BP Products North America Inc Whiting Refinery	419.7
CITGO East Chicago Terminal	194.6
US Steel Corporation Gary Works	192.8
Buckeye Terminals LLC East Chicago Term	101.3
Ardagh Metal Beverage USA Incorporated	85.2
Buckeye Terminals LLC	83.7
Huhtamaki Incorporated	81.0
Cleveland-Cliffs Steel LLC (Indiana Harbor East)	70.0

Total: 2,322.1 – (71%)

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17 Of the remaining 14 in the top-20, 11 facilities are electric generating units.

18 *See* https://www.in.gov/idem/airquality/reporting/emissions-summary-data/

Based on IDEM's own emissions inventory, the single largest contributors to NOx and VOC emissions are the Region's three integrated steel mills, the mills' associated facilities (including Carmeuse Lime, Indiana Harbor Coke, and Portside Energy), and the BP Whiting Refinery. Each of these facilities is located on or very close to the Lake Michigan shoreline. As a result of Lake Michigan's influence on the formation of ozone, these industries are the most significant cause of high ozone concentrations in northern Lake and Porter Counties. IDEM's *Attainment Demonstration* explains how this works:

> A natural lake-land breeze circulation pattern is a major cause of the high ozone concentrations observed along the lakeshore. This pattern is driven by surface temperature gradients between the lake and the land. At night and in the early morning a land breeze forms when the lake surface is warmer than the land surface. The land breeze transports ozone precursors from industrial and mobile sources on land out over the lake. When the sun rises, the ozone precursors over the lake begin to rapidly react to form ozone, and high over-lake concentrations are often observed during the summer. A lake breeze forms when the land surface becomes warmer than the lake, typically in the early afternoon during the summer. The lake breeze transports the concentrated ozone and precursors from the lake, inland to a narrow band along the lakeshore. The ozone concentrations observed along the lakeshore that violate the 2015 ozone standard are often associated with lake-land breeze patterns. ***Areas in closer proximity to the lake shoreline display the most frequent and most elevated ozone concentrations***.[19]

Lake Michigan's influence on the formation of ozone is likely the cause for the higher ozone concentrations measured at the Gary and Ogden Dunes monitors that are closer to the lake. Unless IDEM reduces NOx and VOC emissions from the largest sources along the lakeshore, it will fail to bring Lake and Porter Counties into attainment with the 8-hour ozone NAAQS.

IV. IDEM asks EPA to approve its 2023 Fifteen Percent and Three Percent Contingency Plans, in compliance with CAA Sections 172(c)(2) and 182(b)(1). *Attainment Demonstration*, Section 2.2.

Comment: IDEM's refusal to propose any new control measures will not result in NOx or VOC emissions reductions of at least 15%.

The Clean Air Act requires states with areas in moderate nonattainment to submit SIP revisions that provide for emissions reductions of at least 15% from baseline emissions. 42 U.S.C. § 7511a(b)(1)(A). IDEM's plan to do this, for which it seeks EPA's approval, is a six-page document that relies exclusively on existing regulations. *See 2023 15% Rate-of-Progress Plan and 3% Contingency Measure Plan* (Attachment C). In other words, IDEM's plan is to take no new control measures to reduce the increasing ozone levels in Lake and Porter Counties.

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[19] *Attainment Demonstration*, Section 4.1, at 31 (emphasis added). *See also* LADCO, *Conceptual Model of Surface Ozone Formation in Chicago*, Attachment A, Appendix A4.

In proposing no new control measures, IDEM relies in part on reductions in emissions from non-road and on-road mobile sources. According to its estimates, EPA-mandated future reductions from these sources more than make up for increases in NOx and VOCs from point sources. In effect, IDEM is relying on the health benefits of federal mobile source regulations to allow local industry to pollute more. This proposal is inconsistent with the Clean Air Act.

IDEM also relies on modeling results to project a decline in VOC and NOx emissions of approximately 10% and 14% from 2017 to 2023, respectively. Attachment C, at C-6. Considering that air quality measurements from 2017 to 2022 reflect an increase concentration of ozone during this period, IDEM's modeled results appear unreliable. To further obfuscate reality, IDEM points to ozone precursor emissions in Illinois and EPA's "Good Neighbor Plan" for the 2015 ozone NAAQS as further justifying its plan to impose no new control measures. All of this has real life public health consequences. Further reductions are needed and, even if they were not, reducing ozone below the NAAQS would benefit lakeshore communities already facing disproportionately high impacts from industrial pollution.

Many factors influence ozone concentrations, but only a few are within IDEM's control. Meteorological factors fluctuate each year and many ozone precursor sources are beyond IDEM's jurisdiction, such as traffic on the numerous highways that are laced throughout Lake and Porter Counties. As such, IDEM must take additional action to reduce NOx and VOC emissions from those sources over which it has regulatory authority if it seeks to expeditiously attain the 2015 8-hour ozone NAAQS.

Recommendations for Specific Additional Control Measures

IDEM should act to significantly reduce NOx and VOC emissions from the largest source of NOx and VOCs along the lakeshore: the iron and steel mills and oil refining industries. Some of these actions would require no new regulations or permitting requirements, such as increased inspections of those sources within those industries that produce the greatest amount of NOx and VOC emissions. For example, based upon its 2021 annual emissions report (VFC# 83341277), over 80% of the 3,026 tons of NOx emitted by the Cleveland-Cliffs Indiana Harbor East mill was generated from just seven processes within the facility, the largest of which were its two lime kilns, the No. 7 blast furnace, and the No. 5 boiler house.

In addition, EPA has identified additional control measures that appear cost-effective in reducing emissions of ozone precursors, such as installing low-NOx burners for reheat furnaces in iron and steel manufacturing.[20] According to EPA, low-NOx burners can provide significant

[20] *See* EPA Technical Memo (March 15, 2023) (available at: https://www.epa.gov/system/files/documents/2023-03/Memo%20to%20Docket_Non-EGU%20Applicability%20Requirements%20and%20Estimate%20Emissions%20Reductions%20and%20Costs_Final.pdf); EPA Menu of Control Measures (Sept. 22, 2022) (available at: https://www.epa.gov/air-quality-implementation-plans/menu-control-measures-naaqs-implementation).

reductions in NOx emissions from various sources within the steel industry at a relatively low-cost per ton of emissions. LADCO reached similar conclusions last year.[21]

EPA's recommended control measures, however, even for specific industries, may not be the most effective means of reducing emissions. Northwest Indiana's largest emission sources include large integrated steel mills and their related facilities, some of which were built more than a century ago. IDEM and the lakeshore industries are in the best position to identify the most cost-effective and least disruptive control measures to significantly reduce NOx and VOC emissions. These efforts may be aided by government support, such as the Inflation Reduction Act and the Bipartisan Infrastructure Law. There is also increasing pressure from corporate shareholders to be more sustainable and less carbon-intensive. And there are even industry groups, such as Responsible Steel, promoting socially and environmentally responsible steel production.[22] Building on these supports, IDEM could convene an advisory group with industry, subject matter experts, and local community representatives to help deliver implementation and results more quickly.

Some control measures will necessarily take time to procure and install. But facilities could immediately take operational measures to reduce NOx and VOC emissions on IDEM-declared Air Quality Action Days for Northwest Indiana. Currently, IDEM's Air Quality Action Day notifications encourage "everyone to help reduce ozone by making changes to daily habits." On many summer days, IDEM calls on residents of Northwest Indiana to:

- Drive less: carpool, use public transportation, walk, bike, or work from home when possible
- Combine errands into one trip
- Avoid refueling your vehicle or using gasoline-powered lawn equipment until after 7 pm
- Keep your engine tuned, and don't let your engine idle (e.g., at a bank or restaurant drive-thru)
- Conserve energy by turning off lights and setting the thermostat to 75 degrees or above

Considering that heavy industry is the single largest source of high ozone concentrations and not residents, IDEM should do even more to encourage industry to help reduce ozone. And the lakeshore industries, who have long had a significant hand in the economy of local communities, should look for ways to reduce their environmental impact on their neighbors.

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[21] LADCO, *White Paper: NOx Emission Controls for Stationary Sources in the LADCO Region* (Feb. 2022), Section 9.0 (Iron & Steel Sources) (available at: https://www.ladco.org/wp-content/uploads/Projects/Emissions-Controls/Ramboll-Stationary-NOx-2021/Final_LADCO_WhitePaper_25Feb2022.pdf).

[22] https://www.responsiblesteel.org/

Additional Comments

Comment: The known health disparities of communities in northern Lake and Porter Counties further supports taking additional action to reduce ozone concentrations.

Section 9.0 of the draft *Attainment Demonstration* details the extent that communities in northern Lake and Porter Counties are overburdened with pollution exposure. Using EPA's EJScreen indexes, IDEM's own analysis highlighted those communities with an Environmental Indicator above the 80th percentile. Nearly all of the indicators for all of the locations were above the national average and most of the indicators for Gary were above 80% of the national average. Not only are the people of Gary exposed to high amounts of air pollution, but the city has sensitive populations that are more susceptible to its adverse effects.[23] And statistics show that the communities of color in Northern Lake County are forced to bear a disproportionate burden of Indiana's air pollution and have the health disparities to show for it.[24] Data from 2009 indicated that Lake County had the highest hospitalization rate for asthma in Indiana, while residents of color have the highest rates of asthma. *Id*. at 21, 24.

IDEM's plan to achieve ozone attainment should reflect an urgency to protect the health of a community particularly susceptible to ozone pollution. Instead, IDEM intends to "conduct outreach, as appropriate, in order to assure they are aware of the revised ozone classification as well as efforts to address ozone in the area." *Attainment Demonstration*, Section 9.0, at 64. Rather than merely contacting residents to inform them about dangerous ozone pollution, IDEM needs to take effective steps to reduce it.

Historically, IDEM has relied on EPA regulations and taken other actions to reduce ozone levels that have targeted the residents of northern Lake and Porter Counties as if local residents were primarily responsible for NOx and VOC emissions. These measures include enhanced vehicle inspections and maintenance programs, 326 IAC 13-1.1; vapor recovery equipment at gas stations, 326 IAC 8-4-6; and a residential open burning ban, 326 IAC 4-1. While these are all valuable regulations, there have been few such restrictions on heavy industry.

Comment: IDEM should make more of an effort to write its documents in plain English. And where material is simply too complicated to be presented in an understandable fashion, IDEM

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[23] The number of people in Gary and East Chicago under the age of 5 is greater than the state and national average. Due to their undeveloped anatomy, young children incur greater damage from pollution.

[24] *See* Pramod Dwivedi, Hesam Lahsaee, *Burden of Asthma in Indiana*, Indiana State Department of Health (2011) https://www.in.gov/health/cdpc/files/BR_Asthma_5-11-11gw.pdf. (finding that Black people were hospitalized three times more often than white people and have a significantly higher mortality rate for asthma); See also Indiana Department of Public Health, *Asthma's Impact in Indiana*, (May 2022) https://www.in.gov/health/cdpc/files/2021 GeneralAsthma FactSheet.pdf ("[I]t would be irresponsible to not highlight the health disparities seen in Asthma…these disparities are caused by complex factors that include systemic and structural racism.").

should provide an executive summary to explain why the public should care about this material – particularly if it is serious about obtaining comments from the public beyond those who own and operate sources of significant air pollutants.

Beyond Section 1.0 (Overview), IDEM's *Attainment Demonstration* is mired in technical jargon and regulatory minutia. Due to the intersection of science and law, reducing ozone concentrations can seem complicated, but it's not. If we want to reduce unhealthy ozone levels, we need to reduce the amount of NOx and VOCs being emitted, particularly in the summer. What is complicated are the regulatory gymnastics that IDEM relies upon to explain why doing nothing complies with the Clean Air Act.

Thank you for considering ELPC's comments.

Respectfully submitted,

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