November 9, 2026

Andrew Belt
Indiana Department of Environmental Management (IDEM)
Office of Air Quality, Indiana Government Center North
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Re: Public Comments on U.S. Steel Corporation – Gary Works, PSD/Significant Source Modification No. T089-50605-00121 and Significant Permit Modification No. 089-50609-00121

Dear Mr. Belt,

The Environmental Law & Policy Center, Environmental Integrity Project, Conservation Law Center, Faith in Place, Gary Advocates for Responsible Development, Green EC, Hoosier Environmental Council, Just Transition Northwest Indiana, and National Parks Conservation Association, and Northern Lake County Environmental Partnership (collectively, "Commenters") respectfully submit the following comments on the above-referenced Draft PSD/Significant Source Modification No. 089-50605-00121 and Significant Permit Modification No. 089-50609-00121 (collectively, "Draft Permit") issued by the Indiana Department of Environmental Management ("IDEM") to U.S. Steel Corporation ("USS") for its Gary Works integrated iron and steel mill located at One North Broadway, Gary, Indiana ("Gary Works"). We appreciate the opportunity to make these public comments. Please let us know if you have any questions or if you would like to meet to discuss any of these issues.

Commenters are non-profit organizations that work to promote a healthier environment for all. Commenters advocate for vigorous enforcement of federal and state environmental laws to protect public health and ensure that businesses do not receive a competitive advantage by polluting the environment.

Background

The USS Gary Works integrated steel mill is located along the Northwest Indiana shoreline at the southernmost point of Lake Michigan, adjacent to Indiana Dunes National Park. It began operations in 1909 and was previously the largest integrated steel mill in the world; at 4,000 acres it remains the largest in the United States. Once Gary's largest single employer (employing over

30,000 workers in the 1970s), it now employs only around 2,000 workers.[1] Gary Works has an annual raw steelmaking capability of 7.5 million net tons and manufactures finished steel and tin products. In 2021, USS claimed to be striving for net-zero carbon emissions by 2050, citing its goal of reducing greenhouse gas emissions by 20% by 2030 and as the first North American steel producer to join Responsible Steel.[2] USS continues to list these goals on its website and also touts its 2021 launch of verdeX® sustainable steel, made at USS' mini mills from "up to 90% recycled content" and with a 75% lower carbon footprint "than comparable products made through integrated steelmaking," available in "a growing number of grades that meet exacting automotive OEM standards today."[3]

Despite these commitments, Gary Works is the sixth-largest stationary source of particulate matter ("PM") in the United States. Gary Works is located in Lake County, Indiana, "one of only 20 counties nationwide to receive failing grades for short- and long-term PM2.5 particle pollution and ozone."[4] With four coal-fired blast furnaces, it is the "largest greenhouse gas polluter among more than 200 industrial plants nationwide,"[5] and is among Indiana's top five stationary source emitters of carbon monoxide ("CO"), fine particulate matter ("PM2.5"), and lead compounds ("Pb"), and top twelve emitters of nitrogen oxides ("NOx") and sulfur dioxide ("SO2").[6] These emissions likely contribute to Lake County, Indiana's designation as serious nonattainment for the 2015 8-hour ozone standard[7] and to the Indiana Dunes National Park's ranking as among the top 10 National Parks with unhealthy air and hazy skies.[8]

In 2025 alone, Gary Works reported the following facility-wide emissions:[9]

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[1] Randy Niemeyer, Jeffrey Bonior, *U.S. Steel-Nippon Steel partnership offers Gary a second chance*, Inside Indiana Business, May 8, 2025, https://www.insideindianabusiness.com/articles/u-s-steel-nippon-steel-partnership-offers-gary-a-second-chance.

[2] United States Steel, *Our History: An Industry Leader from the Start*, available at https://www.ussteel.com/about-us/history (last accessed November 2, 2026).

[3] *Id.*

[4] John Lippert and Maya Wilkins, *Gary residents say US Steel is jeopardizing their jobs and air quality by failing to install modern furnaces*, Chicago Tribune and Post-Tribune (June 28, 2026), https://www.chicagotribune.com/2026/06/28/gary-works-us-steel-nippon/.

[5] Ben Jealous, *U.S. Steel smothered Gary, Indiana, with heavy pollution. Community activists deserve a say in cleanup.* Chicago Sun-Times, Oct. 24, 2023, https://chicago.suntimes.com/columnists/2023/10/24/23929058/steel-mill-pollution-environment-toll-gary-indiana-biden-infrascture-clean-energy-ben-jealous; *see also* Joseph S. Pete, *Region steel mills rank as three worst carbon emitters nationally*, NWI Times, Sep. 14, 2023, available at https://www.nwitimes.com/news/local/region-steel-mills-rank-as-three-worst-carbon-emitters-nationally/article_1bb44ff8-532c-11ee-88c5-e7fa1201b961.html.

[6] Industrious Labs, *Dirty Steel, Dangerous Air: The Health Harms of Coal-Based Steelmaking*, at 14 (October 2024), https://cdn.sanity.io/files/xdjws328/production/71057afa03f9784a6599a762149bd87fe735c06a.pdf.

[7] 40 C.F.R. § 81.315.

[8] Daniel Orozco, et al., *Polluted Parks: How Air Pollution and Climate Change Continue to Harm America's National Parks*, National Parks Conservation Association (NPCA), https://www.npca.org/reports/air-climate-report.

[9] U.S. Steel Corporation – Gary Works, 2025 Air Emission Inventory Statement, dated June 26, 2026, p. 1, https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83983597&dDocName=83991718&Rendition=web&allowInterrupt=1&noSaveAs=1.

Facility Emissions Overview		
Pollutant	**Pollutant Description**	**Emissions (Tons)**
NH3	Ammonia	38.3708
CO	Carbon Monoxide	56651.4725
7439921	Lead	0.0728
NOX	Nitrogen Oxides	2930.5010
PM-CON	Primary PM Condensable Only (All Less Than 1 Micron)	1156.0417
PM10-FIL	Primary PM10, Filterable Portion Only	968.0411
PM25-FIL	Primary PM2.5, Filterable Portion Only	861.1910
S02	Sulfur Dioxide	1935.0500
VOC	Volatile Organic Compounds	185.4898

In addition to relying on highly polluting coal-fired blast furnaces, Gary Works still operates a sinter plant – a facility that fuses together iron ore powder or dust with waste from steel mill furnaces to create fuel for a blast furnace. Sinter plants "are the major contributor to dust emissions from integrated ironworks and steelworks."[10] Sinter plants are well-known to release hazardous emissions such as particulate matter, NOx, sulfur oxides (including SO2), and dioxins.[11] In fact, the three sinter plants in Northwest Indiana, including Gary Works, produce 92% of all point source hazardous air pollutants from iron and steel mills in the U.S.[12] According to U.S. EPA Toxics Release Inventory data, Gary Works emitted 202 tons of hazardous air pollutants into the air in 2024, including 1513 lbs. of toxic lead[13] and according to Gary Works' own annual emissions report data, the sinter plant alone was responsible for 20% of PM10, 16% of PM2.5, 42% of VOC, 9% of SO_2, 33% of CO, and 24% of lead emissions.[14]

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[10] L. Lu et al., *Sintering emissions and their mitigation technologies*, pp. 551-579 at § 18.6.1, in: Liming Lu (ed) Iron Ore (2015). Woodhead Pub. https://doi.org/10.1016/B978-1-78242-156-6.00018-6.

[11] Mou, JL., Morrison, R.J., *Sinter Plant Operations: Hazardous Emissions*. pp. 75-98, In: Cavaliere, P. (eds) Ironmaking and Steelmaking Processes (2016). Springer, Cham. https://doi.org/10.1007/978-3-319-39529-6_5.

[12] Aydali Campa et al., *Industrial Plants in Gary and Other Environmental Justice Communities Are Highlighted as Top Emitters*, Inside Climate News (September 14, 2023), https://insideclimatenews.org/news/14092023/gary-steel-works-top-emitter-environmental-justice/. Note that the two other sinter plants are operated by Cleveland-Cliffs at Indiana Harbor East and at Burns Harbor, but neither is used to make steel, rather they are "only used to recycle hazardous waste from steel mill furnaces." *Id.*

[13] U.S. EPA Toxic Release Inventory, Facility Report: USS Gary Works (last accessed November 2, 2026), data available for download at https://enviro.epa.gov/triexplorer/release_fac_profile?TRI=46402SSGRYONENO&TRILIB=TRIQ1&V_NA_INDICATOR=.&FLD=&FLD=RELLBY&FLD=TSFDSP&OFFDISPD=&OTHDISPD=&ONDISPD=&OTHOFFD=&YEAR=2024.

[14] U.S. Steel Corporation – Gary Works, 2025 Air Emission Inventory Statement, dated June 26, 2026, p. 1-2, https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83983597&dDocName=83991718&Rendition=web&allowInterrupt=1&noSaveAs=1.

Commenters continue to object to USS' attempts at rebranding the No. 3 Sinter Plant as its "Recycling Plant" or "Recycle Plant".[15] A sinter plant is specifically defined and regulated under the Clean Air Act, and such a rebrand only confuses and obfuscates the facility's purpose and leads to public confusion about the facilities that are operating at Gary Works.[16] For example, while the Draft Permit identifies the Recycling Plant as "formerly known as the Number 3 Sinter Plant" in Sections D.6 and F.9, this information (or any mention of "sinter") does not exist in the IDEM's Technical Support Document ("TSD") accompanying the Draft Permit or on the quarterly reporting templates, including in USS' netting analysis, the CAM applicability table, or the summary of testing requirements table. Those documents only mention the Recycle Plant. Conversely, the emissions calculations in Appendix A is a mashup of references to the Recycle Plant and specific units such as the "Sinter Discharge," "Sinter Windbox," and "Sinter Cooler," all of which have specific requirements under 40 CFR 63 Subpart FFFFF which might be lost by any layperson trying to review the Gary Works' Draft Permit.

Significantly, all of Gary Works' pollution figures may well be understated because USS does not report *any* emissions data from continuous emissions monitoring systems; it relies exclusively on *estimates* using EPA, state/local, or site-specific emission factors.

IDEM issued a Part 70 Operating Permit Renewal No. T089-46943-00121 on May 7, 2025, for the Gary Works steel mill, and IDEM has since approved some other permit changes that are not at issue here. Nippon Steel acquired USS on June 18, 2025, with a promised investment of $11 billion in USS assets nationwide,[17] and $3.1 billion specifically earmarked for Gary Works, including $200 million upgrades at the hot strip mill and $300 million for the blast furnace.[18] USS formally announced the $350 million reline of Blast Furnace 14 on December 22, 2025.[19] USS applied to

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[15] The Draft Permit primarily uses "Recycling Plant" whereas the TSD, report templates, and emissions calculations use "Recycle Plant." *See also* Appendix A to Addendum to the Technical Support Document (ATSD) for a Part 70 Operating Permit Renewal No. T089-46943-00121 (May 7, 2025) at 5, PDF 965.

[16] *See* 40 C.F.R. 63.7852 (defining sinter plant as " means the machine used to produce a fused clinker-like aggregate or sinter of fine iron-bearing materials suited for use in a blast furnace. The machine is composed of a continuous traveling grate that conveys a bed of ore fines and other finely divided iron-bearing material and fuel (typically coke breeze), a burner at the feed end of the grate for ignition, and a series of downdraft windboxes along the length of the strand to support downdraft combustion and heat sufficient to produce a fused sinter product.").

[17] Press Release, United States Steel, U.S. Steel Unveils New Era of Growth (November 4, 2025), https://www.ussteel.com/media/newsroom/-/blogs/u-s-steel-unveils-new-era-of-growth; Press Release, United States Steel, U.S. Steel Makes Strategic Progress on Indiana Projects Backed by Nippon Steel Partnership (December 22, 2025), https://www.ussteel.com/media/newsroom/-/blogs/u-s-steel-makes-strategic-progress-on-indiana-projects-backed-by-nippon-steel-partnership.

[18] Maya Wilkins, *US Steel board approves $200 million investment in Gary Works*, Post-Tribune (September 25, 2025), https://www.chicagotribune.com/2025/09/25/u-s-steel-board-approves-200-million-investment-in-gary-works/. *See also*, Press Release, United States Steel, U.S. Steel Board Advances Capital Investments, Announces New Projects in Pennsylvania and Indiana (September 24, 2025), https://www.ussteel.com/media/newsroom/-/blogs/u-s-steel-board-advances-capital-investments-announces-new-projects-in-pennsylvania-and-indiana.

[19] Press Release, United States Steel, U.S. Steel Makes Strategic Progress on Indiana Projects Backed by Nippon Steel Partnership (December 22, 2025), https://www.ussteel.com/media/newsroom/-/blogs/u-s-steel-makes-strategic-progress-on-indiana-projects-backed-by-nippon-steel-partnership.

revise the Gary Works permit on December 19, 2025, and then pulled that application and submitted a revised application on July 29, 2026.[20] IDEM issued this Draft Permit for public comment on October 1, 2026.

The draft Significant Source Modification ("SSM") and Significant Permit Modification ("SPM") would authorize certain projects at Gary Works, which USS and IDEM refer to as the "Primary Project" and the "WBF Project." The "Primary Project" includes changes to the existing blast furnaces, No. 1 BOP Shop operations, No. 2 QBOP Shop operations, and the addition of a new boiler at the Turboblower Boiler House ("TBBH"). The "WBF Project" will replace the existing reheat furnaces in the existing hot strip mill finishing operations with an advanced walking beam furnace reheat furnace. While the SSM/SPM briefly references the relining of Blast Furnace 14, the Draft Permit does not address or otherwise authorize the reline.

The Clean Air Act requires a New Source Review ("NSR") pre-construction permit prior to construction of a "major modification" of a stationary source of air pollution.[21] A "major modification" is "any physical change in, or change in the method of operation of, a stationary source that would result in . . . a significant net emissions increase," defined on a pollutant-by-pollutant basis in EPA regulations.[22] The Indiana State Implementation Plan ("SIP") also requires air permitting to modify an existing major stationary source of air pollution and specifies that any major modifications of such sources go through PSD and NNSR permitting prior to beginning actual construction.[23] Additionally, the Indiana SIP requires even minor modifications be evaluated for NSR permitting.[24]

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[20] *See* Application for Issuance for Permit for Site Modernization Projects, U.S. Steel Corporation, Gary Works, Lake County, Indiana, Part 70 Operating Permit T089-46943-00121 (July 29, 2026), https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83991174&dDocName=83999300&Rendition=web&allowInterrupt=1&noSaveAs=1; OAQ Permit Application Withdrawn by Applicant, Source ID 089-00121, Permit #49894 (email dated August 4, 2026), https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83995171&dDocName=84003304&Rendition=web&allowInterrupt=1&noSaveAs=1 (withdrawing significant source modification); OAQ Permit Application cancelled, Source ID 089-00121, Permit #49937 (email dated August 4, 2026), https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83995182&dDocName=84003315&Rendition=web&allowInterrupt=1&noSaveAs=1 (cancelling significant permit modification); Application for Issuance for Permit for Site Modernization Projects, U.S. Steel Corporation, Gary Works, Lake County, Indiana, Part 70 Operating Permit T089-46943-00121 (December 19, 2025), https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83904106&dDocName=83910429&Rendition=web&allowInterrupt=1&noSaveAs=1.

[21] 42 U.S.C. § 7475(a) (Prevention of Significant Deterioration ("PSD")); 42 U.S.C. § 7503 (Nonattainment NSR ("NNSR")).

[22] 40 C.F.R. § 51.166(2)(i) (PSD); § 60.14(a) (NNSR).

[23] *See* 326 IAC 2-7-10.5 and 326 IAC 2-2-2(c); *see also* 40 C.F. R. 52.770.

[24] *See* 326 IAC 2-7-10.5(d)(1)(D) (requiring the "information as needed to assure all reasonable information is provided to evaluate compliance consistent with the permit terms and conditions, the underlying requirements of this title and the CAA, the ambient air quality standards set forth in 326 IAC 1-3, or the prevention of significant deterioration maximum allowable increase under 326 IAC 2-2").

Title V permits must list and assure compliance with all federally enforceable requirements that apply to each major source of air pollution and thus are the primary method for enforcing and assuring compliance with the pollution control requirements of the CAA.[25] One primary purpose of Title V is 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," thereby increasing source accountability and improving enforcement of CAA requirements.[26]

The Title V permitting authority must ensure that a proposed permit "set[s] forth" conditions sufficient "to assure compliance with all applicable requirements" of the Act.[27] The Title V permitting authority must ensure that a proposed permit "set[s] forth" conditions sufficient to "assure compliance with all applicable requirements" of the Clean Air Act ("CAA").[28] "Applicable requirements" include any requirements of a federally enforceable state implementation plan ("SIP"), any requirements of preconstruction air permits, and various EPA CAA rules that apply to emission units at the source.[29] Additionally, a Title V permit must include compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit.[30] Title V regulations require that the permitting authority's rationale for any proposed permit conditions be clear and documented in the permit record.[31] Finally, EPA has explained that the enforceability of Title V permits must be "unambiguous" and must allow IDEM, EPA, and the public to "take appropriate enforcement action"[32] if its terms are exceeded.[33]

As explained below, the Draft Permit fails to satisfy these requirements, and Commenters identify the following problems:

- NOx emissions used as the baseline in the Application are inflated
- Increases and decreases from the boiler and flares in Step 1 must be excluded
- There are errors related to the NOx emission reductions for the boilers
- There are errors related to the NOx emission reductions for the Blast Furnace Stoves

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[25] 57 Fed. Reg. 32250, 32258 (July 21, 1992).
[26] *Id.* at 32251.
[27] *In the Matter of Sandy Creek Services, LLC, Sandy Creek Energy Station, McLennan County, TX* (June 30, 2021), https://www.epa.gov/system/files/documents/2021-07/sandy-creek-order_06-30-21.pdf ("*Sandy Creek Order*"), at 12 (quoting 42 U.S.C. § 7661c(c)).
[28] *Id.*
[29] 40 C.F.R. § 70.2 (definition of "applicable requirement" at (1) and (2)); *In the Matter of Pacific Coast Building Products, Inc., Permit No. A00011, Clark County, NV* (Dec. 10, 1999), https://www.epa.gov/sites/default/files/2015-08/documents/pacific_coast_decision1999.pdf ("*Pacific Coast Order*") at 7 ("applicable requirements include the requirement to obtain preconstruction permits that comply with preconstruction review requirements under the Act, EPA regulations, and State Implementation Plans").
[30] 42 U.S.C. § 7661c(c); 40 C.F.R. § 70.6(c)(1).
[31] 40 C.F.R. § 70.7(a)(5).
[32] *In the Matter of Tesoro Refining and Marketing Co. Martinez, California Facility* (March 15, 2005), https://www.epa.gov/sites/default/files/2015-08/documents/tesoro_decision2004.pdf ("*Tesoro Order*"), at 9.
[33] *In the Matter of Orange Recycling and Ethanol Production Facility, Pencor-Masada Oxynol, LLC* (Apr. 8, 2002), https://www.epa.gov/sites/default/files/2015-08/documents/masada-2_decision2001.pdf ("*Pencor-Masada Order*"), at 7.

- NOx emissions from Boiler 3 at the No. 4 Boiler House were improperly excluded
- Credits for emissions reductions under capable of accommodating were improper
- There is no clear support for the amounts of blast furnace gas to be flared
- Several units seem to be running outside of their physical ability or legal authorization
- The projects may be major modifications after correcting errors in SO2 calculations
- All the projects are substantially related
- Failure to include the relining of Blast Furnace 14
- Beginning actual construction without a permit makes sinter plant emission credits unavailable
- Includes significant NOx emissions from an unidentified source
- The use of the "capable of accommodating test" to zero out real increases associated with this project is improper
- Carbon Monoxide Best Available Control Technology determinations are insufficient
- There is no clear basis for the Reheat Furnace and Waste Boiler baseline emissions
- Does not assure compliance with Walking Beam Furnace NOx emissions
- The compliance requirements for TBBH Boiler No. 7 are contradictory
- The modifications included in this SSM/SPM are not adequately or fully explained
- Does not include the Compliance Assurance Monitoring Plan
- Fails to assure compliance with emissions limits
- Determination that CarbonFree is not part of the same major source is incorrect
- Does not assure compliance with NESHAP and NSPS standards and requirements
- Does not include the Preventive Maintenance Plan
- Does not include the Continuous Compliance Plan, Corrective Action Plan, and NESHAP Operation and Maintenance Plan
- Does not include the Fugitive Dust Control Plan
- TSD for the SPM should explain the operating requirements for all the emissions units
- Inadequate opportunity for public participation
- clerical errors

In the comments below, Commenters identify 41 issues that IDEM must address through the specified "Required Actions" before it can issue any Final Permit authorizing these changes to the Gary Works facility.

Comments

I. NOx emissions in the July 2026 Application were inflated outside of any historical basis.

USS made changes to inflate Gary Works' baseline emissions between the December 2025 Application and July 2026 Application. For NOx emissions—the most critical pollutant from a steel plant in an ozone nonattainment area—USS increased the baseline NOx emissions from the blast furnace stoves, boilers and flares by 830 tons/year of NOx between the two applications

without any explanation. In both applications USS cites "No.4 BH 1, 2 CEMS" and "Boiler CEMS" as the reference for the blast furnace gas ("BFG") and natural gas ("NG") emission factors, respectively, but they don't provide any explanation for why emissions from the same source would be so much higher from one application to the next. And IDEM uses the newer higher numbers without any explanation for the change. This lack of transparency is unacceptable when permitting more than $200 million of changes[34] in an area where an increase of 40 tons/year of NOx is a significant increase requiring the addition of the best pollution controls that money can buy. Additionally, the emission estimates relied upon by USS and IDEM to issue this Draft Permit are also 600-800 tons/year more than the actual emissions that USS reported to the state during the baseline years.[35] By using these inflated emission baselines, IDEM is allowing Gary Works to increase real emissions in large amounts without triggering additional pollution controls.

Required Action 1: IDEM must require USS to use its actual measured CEMS emissions during the baseline period for its baseline NOx emissions for its emissions calculations.

II. IDEM must exclude increases and decreases from the boiler and flares in Step 1 of the NSR calculation for all pollutants.

USS improperly includes emission reductions unrelated to "modifications" at the facility when determining if there is a significant increase. Step 1 of the NSR applicability test required USS to compare increases (and decreases) *resulting from the project(s)*.[36] Additionally, the definition of a "major modification" under 40 CFR 51.21(b)(2)(iii)(E) makes clear that a "change in the method of operation" excludes a change in fuel that the source: (1) "was capable of accommodating before January 6, 1975" unless the change was prohibited by a PSD/NSR permit, or (2) is already authorized to use under any NSR/PSD permit. Indiana defines a major modification as excluding a change in the method of operation that a source is capable of accommodating and/or is already authorized under an NSR/PSD permit and under IDEM rules.[37]

The Draft Permit violates these requirements. The July 2026 Application identified a number of units at Gary Works that are changed and a number of units that have rate increases due to these projects, but USS erroneously also included 430 tons of NOx reductions that are not related to the changed emission units addressed in this permit. Instead, those reductions are associated with Gary

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[34] Press Release, United States Steel, U. S. Steel Makes Strategic Progress On Indiana Projects Backed By Nippon Steel Partnership (December 22, 2025), https://www.ussteel.com/media/newsroom/-/blogs/u-s-steel-makes-strategic-progress-on-indiana-projects-backed-by-nippon-steel-partnership.

[35] *Compare* TSD at PDF 429 (blast furnaces) and 467 (boilers).

[36] 326 IAC 2-2-2(d)(2). *See also Environmental Defense Fund v. EPA,* No. 18-1149, (D.C. Cir., July 28, 2026), Slip Op. at 9 (noting that " Step One requires a net calculation that accounts *for a project's* emissions increases and decrease")(emphasis added).

[37] 326 IAC 2-2-2(dd)(2)(E), 326 IAC 2-2-3(y)(2)(E). This is also confirmed by EPA guidance in 1990 that addressed switching from oil to an oil & NG blend was a major modification, even when allowed by a prior permit because the source could not physically actually use NG – it had not constructed any of the NG equipment. Letter from Gerald A. Emison, EPA Office of Air Quality Planning and Standards, to Morton Sterling, Director of Environmental Protection Detroit Edison Company, https://www.epa.gov/sites/default/files/2015-07/documents/majormod.pdf.

Works' aspirations to use less NG and more BFG in the boilers and therefore flaring less BFG in the future. However, under 326 IAC 2-2-2(dd)(2)(E), USS cannot classify its aspirations to switch fuels as modifications because these units were already capable of accommodating, physically and legally (by permit), both fuels prior to 2026.[38] Therefore, USS cannot claim the change in fuels is a "modification" under NSR and any emissions increases or decreases associated with the increased use of BFG cannot be included in Step 1. If USS wants to take advantage of these decreases, they must happen in Step 2, which addresses existing emission units.[39] USS itself said "No physical changes or changes in the method of operation are proposed for the existing boilers at TBBH and NO.4 Boiler House as well as the BFG Flares."[40]

Required Action 2: IDEM must exclude emissions increases and decreases from the boilers and flares from the step 1 calculations since they are not modifications

III. IDEM must require USS to correct errors related to the NOx emission reductions for the boilers.

Even if USS could consider these decreases, the calculated NOx emissions reductions associated with the boilers and flares are done poorly and appear to be scientifically unsupportable. We provide the information in bullets below on issues with the calculations should USS decide to apply these reductions in a revised applicability calculation, as necessary.

Baseline emissions. There are 4 different sources that provide information regarding the baseline NOx emissions form Gary Works:

- 2023 and 2024 Annual Emission Inventories submitted by USS to IDEM[41]
- July 2026 Application (Same as draft permit)
- December 2025 Application
- Actual CEMS Data – this data is not in the public record, so it is not included in the chart below

[38] *See* Part 70 Operating Permit Renewal No. T089-46943-00121 (May 7, 2025) Section D.14(a) at 104 ("Two (2) Boilers, No. 1 and No. 2 [...] equipped to combust natural gas, blast furnace gas, and fuel oil"); Condition D.14.5 at 105.
[39] 326 IAC 2-2-2(d)(3).
[40] July Application at 3-6.
[41] *See* 2023 Annual Emissions Statement (June 7, 2024) and 2024 Annual Emissions Statement (June 10, 2025) (collectively, "Emission Inventories"). All citations to these Emission Inventories rely on these files obtained from the IDEM Virtual File Cabinet.

Here are the baseline NOx emissions that USS has reported across these sources:

Baseline NOx Emissions (2023-2024 average)	Emission Inventories (2023-2024 avg)	July 2026 Application	December 2025 Application
TBBH Boiler 1	97	141.05	76.0
TBBH Boiler 2	104	203.95	86.7
TBBH Boiler 3	102	186.45	77.5
TBBH Boiler 5	77	255.5	44.1
TBBH Boiler 6	250	262.35	250.2
No. 4 BH Boiler 1	15	57.79	15.3
No. 4 BH Boiler 2	15	62.49	14.3
No. 4 BH Boiler 3	62	134.25	62.9
Flare	45	130.1	50.9
Flare	14	39.34	15.4

The huge variability in the data raises questions about the basis for each NOx emission figure. The annual emissions inventories say they are based on site specific data. The July 2026 Application states that the emissions are from CEMS,[42] and the December 2025 Application references "No. 4 BH Boiler CEMS."[43] There is no explanation for how these different numbers were calculated or why they are so different.

Required Action 3: USS must provide all relevant CEMS data and IDEM needs to include a supportable baseline if any credits related to these NOx emission changes are allowed.

Future emission projections. The application contains engineering errors related to USS' calculation of future emissions factors, as outlined in the table below. These units have NOx CEMS data and gas usage data that have not been made available to the public, but this data is essential as it can be used to try to determine the contribution of natural gas and blast furnace gas to the baseline NOx emissions at a unit. Understanding the baseline emissions is important for understanding the emission projections going forward, since these units aren't being modified. In calculating the baseline emissions for all the emission units listed in the table above, USS says they used "unit-specific emission factors" when calculating NOx emissions from both NG and BFG use. However, the July 2026 Application and subsequent TSD from IDEM holds the BFG emission factor constant across all of the units when calculating their projected emissions This is inconsistent with the annual emission statements and the December 2025 Application. This is also inconsistent with the realities of NOx emissions created from the combustion of different fuels and the data at this facility.

[42] July 2026 Application at PDF 249.
[43] December 2025 Application at PDF 171-86, 210.

Here are the NOx emission factors that USS used in their emission inventories and the Applications:

NOx emission factors –	Emission Inventories	**July 2026 Application (for projected emissions only)**	December 2025 Application (for baseline and projected emissions)
NG - TBBH Boiler 1	118.4	**164.7**	92
NG - TBBH Boiler 2	136.8	**339.2**	113.2
NG - TBBH Boiler 3	132.1	**234.5**	99
NG - TBBH Boiler 5	89.16	**293.7**	50.3
NG - TBBH Boiler 6	173.9	**161.6**	183.8
NG - No.4 BH Boiler 3	54.9	**99.9**	42.5
BFG - No. 4 BH Boiler 1	0.82	**3**	0.9
BFG - No. 4 BH Boiler 2	0.7	**3**	0.8
BFG - No. 4 BH Boiler 3 TBBH Boiler 1-3 TBBH Boiler 5-6	0.73	**3**	0.9
BFG – Flare 1&2	0.85	**3**	1.2
BFG – Flare 4	0.85	**3**	1.2

The 2023 and 2024 CEMS data for TBBH Boiler 2, as reported by USS, shows 100 tons higher NOx emissions in 2024 compared to 2023.[44] However, approximately the same amount of NG was used in both years, but about 30% more BFG was used the year emissions were *lower*. This shows that unit-specific emissions conditions in the boilers are the driver behind NOx changes, not the amount of NG used. Additionally, tying all emissions changes only to NG use is wrong because of the large variation in calculated emissions between the TBBH Boilers 1-3. These boilers are similar, and if gas consumption was the driving factor, then you would expect boilers with similar NG usage to have similar emissions. That isn't the case here.

The constant BFG emission factor in the July 2026 Application and TSD also raises questions of how BFG NOx emissions would be the same across very different combustion sources – flare, blast furnace, boiler. These are different units with different temperatures and combustion conditions and the lack of nuance in the projection is unsupportable by reasonable engineering standards.

[44] July 2026 Application at PDF 249.

Because USS attributes all variable boiler NOx emissions to use of NG instead of boiler function itself, if USS succeeds in using less NG, then it can calculate artificially low NOx emissions. This raises serious questions about how USS will calculate future emissions and monitor whether these promised decreases actually occur, or whether in fact the project increases NOx emissions plantwide. If USS decides to use these BFG-related NOx reductions in Step 2 of the applicability analysis, it needs to present and explain a more supportable position on likely NOx emissions reductions. Then USS must guarantee those reductions through the use of CEMS in the future.

Required Action 4: IDEM must direct USS to amend its application to address the inconsistency in NOx emissions amounts identified above and to perform the required analyses in Step 2 as required by law.

IV. IDEM must require USS to correct errors related to the NOx emission reductions for Blast Furnace Stove NOx.

The calculations of NOx from the blast furnaces are also affected by the emission estimate issues described in Section III above. Specifically, the NOx emission factor for BFG used in the December 2025 Application (1.82 lb/mmcf) was about half of that used in the July 2026 Application (3.02lb/mmcf). The NOx emission factors used in the July 2026 Application for both the calculation of the baseline and the projected emissions are the same across all units – blast furnace stoves, boilers, and flares. This is implausible as the units are quite different and variability would be expected. The December 2025 Application assumed variation in NOx emissions with the boilers being around 0.9 lb/mmcf, the flares at 1.2 lb/mmcf, and the blast furnace stoves at 1.82 lb/mmcf. The July 2026 Application never explains why USS changed all the emissions estimates and now assumes the emission factor for BFG will truly be the same across such different combustion sources in the baseline and in the future.

Required Action 5: IDEM must require USS to explain and provide the data sources for its claimed NOx emission estimates in the baseline, projection and excludable emissions for the blast furnace stoves.

V. USS improperly used excluded NOx emissions from Boiler 3 at the No. 4 Boiler House ("No. 4 BH").

Both the July 2026 Application and Draft Permit include a calculation for nearly every boiler for NOx emissions the unit could have accommodated and therefore should be "excluded". These emissions calculations reflect what the boiler could have emitted in NOx if it burned more blast furnace gas than it has historically burned. Reg. It has instead flared the same blast furnace gas, rather than using it in the boiler. USS calculates an overall reduction from all mixed fuel boilers and then calculates an additional amount that the unit accommodated. However, 326 IAC 2-2-1(pp) makes it clear that a company can only "exclude, in calculating any increase in emissions that result from the particular project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the…baseline period." Since none of the mixed

fuel boilers are calculating an increase in NOx emissions, there is no additional adjustment that can be made for the unit being capable of accommodating. For the most part, the July 2026 Application follows this rule when addressing NOx emissions, but the calculation for No. 4 BH Boiler 3 is incorrect because it includes both a 33.3 ton NOx reduction from baseline and an additional 6.2 tpy NOx reduction from capable of accommodating. This is incorrect.

Required Action 6: IDEM must require USS to revise its NOx calculations for No. 4 BH Boiler 3 to exclude this impermissible "capable of accommodating" adjustment.

VI. USS improperly took credit for SO2, PM, PM10, PM2.5 emissions reductions under capable of accommodating for all boilers.

EPA applicability determinations have repeatedly discussed the "capable of accommodating" exclusion from the calculation of projected emissions. From the Georgia Pacific letter:

> This provision is commonly called the 'demand growth exclusion.' The rules do not limit this excludable amount to the amount actually emitted (i.e., the highest demonstrated/documented level of emissions) during a given period within the baseline. Rather, it is the highest amount that the unit could have legally and physically emitted during the baseline, before the proposed project, if market demand had been sufficiently high to require that increased maximum level of production.[45]

The key element to using this exclusion is determining what the unit could have done under more favorable market conditions. Here, however, USS is seeking to double count SO2 and PM (including PM10 and PM2.5) reductions by using this condition when market conditions are not a factor at all.

In the baseline period, Gary Works flared a significant amount of BFG rather than using it in boilers. This means the flares had relatively high emissions (e.g. 317 tons SO2/year combined in the baseline), and the boilers had correspondingly lower SO2 and PM emissions because they were burning more NG. The July 2026 Application now projects less use of the flares to combust BFG and therefore the projected emissions changes from the flares show a reduction in SO2 and PM. However, under the proposed scenario, the boilers will now burn this same BFG, increasing their SO2 and PM emissions. USS improperly uses a capable of accommodating exclusion to remove the SO2 and PM increases at the boilers while also taking credit for the reduction in SO2 and PM emissions at the flares.

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[45] Letter from Greg Worley, Chief, Air Permits Section to Mark Robinson, Plant Manager (Nov. 26, 2009), https://www.epa.gov/sites/default/files/2015-07/documents/demandgrowth.pdf, at 3.

This accounting is improper for two reasons. First, the choice to flare instead of burn this BFG had nothing to do with market conditions, so the "capable of accommodating" reduction cannot be used. Second, this is an illegal double counting of SO2 emission—USS counts both the SO2 and PM reduction from not flaring the BFG and also subtracts the SO2 increase from burning that same BFG in the boilers in the projection.

It is noteworthy that this problem is again related to the overall improper inclusion of these BFG-related reductions from the boilers and flares in the Step 1 calculation.

Required Action 7: IDEM must remove double counting of SO2 and PM reductions improperly included in Step 1 calculations from non-modified units and improper use of the "capable of accommodating" exclusion**.**

VII. Lack of support for amounts of BFG to be flared.

IDEM's analysis increases the amount of BFG that is projected to be flared from Flares 1 and 2 from 29,745 to 45,724 mmcf/yr without any explanation. This error causes emissions increases in all pollutants in projections compared to what USS submitted, but it is not clear what this amount is based on and if it was a clerical error or a request from the company.

Required Action 8: IDEM must ensure it is using the correct BFG usage and provide data from USS to support it.

VIII. Gary Works seems to be running several units outside of their physical ability or legal authorization.

The "capable of accommodating" exclusion is required to be based on the operating capacity—and resulting emissions—that the unit could have physically and legally accommodated under the existing permits. However, for some units, the December 2025 and July 2026 Applications state that the capacity the unit was "capable of accommodating" under their current air permits is less capacity than USS actually reported as being used in the baseline period. Here are a few examples of many:

- No. 1 and 2 flares combusted 86,302 mmcf/yr of blast furnace gas in the baseline period, but USS asserted they are "capable of accommodating" only 44,325 mmcf/yr.[46]
- TBBH Boiler 1 reported use of 1,565 mmcf/yr of NG in the baseline period but USS stated it was capable of accommodating only 858 mmcf/yr of NG.[47]

[46] TSD at PDF 476; July 2026 Application at PDF 213.
[47] TSD at PDF 467; July 2026 Application at PDF 205

As the amount of gas combusted in the baselines period directly impacts the emission produced during the baseline period, emissions not allowed under the existing permit could impact the applicability determinations at issue here.

Required Action 9: IDEM must evaluate each unit impacted by the proposed projects and determine whether the units are operating beyond what their permitting capacity the baseline period.

IX. The Draft Permit and underlying analysis rely on SO2 limits from Boiler No. 7 do not reflect the proposed operation.

There is a discrepancy between the Draft Permit, TSD, and the July 2026 Application, regarding the amount of BFG and NG that will be combusted at Boiler No. 7. The July 2026 Application states that Boiler No. 7 will use 22,160 mmcf/yr BFG and 873 mmcf/yr NG with estimated SO2 emissions of 87 tpy.[48] Condition D.15.1(d) of the Draft Permit limits SO2 emissions from Boiler No. 7 to 0.85 tons/year. However, the compliance determination method in Condition D.15.9(d) is only based on NG usage (requiring the source to multiply NG usage by the AP-42 factor of 0.6 lb/MMBtu) to determine compliance with the 0.85 tons/year SO2 limit; it does not contain any requirement or method to calculate SO2 emissions from BFG. While the Draft Permit doesn't allow Gary Works to combust BFG until the Indiana regulations are revised to allow this fuel usage and the revised regulation is also approved in the SIP,[49] USS explains that they plan to use 90% BFG for this boiler long term. However, Commenters could not identify any conditions in the Draft Permit requiring Gary Works to calculate the SO2 content of the BFG or calculate and report SO2 emissions from BFG combustion. As noted above, the SO2 limit in the Draft Permit doesn't reflect any BFG usage at all. IDEM's underlying analysis also reflects an SO2 PTE of 0.85 tpy consistent with that NG-based limit and states, without explanation, that the calculated SO2 emissions PTE for Boiler No. 7 is based on using NG only at an 80% firing rate.[50] IDEM must reconcile whether the Draft Permit is authorizing Boiler No. 7 to burn BFG or not and appropriately modify the Draft Permit and the underlying analysis to include SO2 emissions from BFG combustion. USS says it will use 90% BFG, but the Draft Permit contains an SO2 limit that makes it impossible for them to burn almost any BFG. In fact, applying the proposed emission rate to BFG usage would likely cause this project to result in a significant increase in SO2 emissions!

Required Action 10: IDEM must revise the permit to require USS to calculate SO2 emissions from both NG and BFG in complying with the limit of 0.85 ton/year at Boiler No. 7 or IDEM needs to revise the underlying analysis and resulting permit limits, including addressing major NSR requirements for SO2 as necessary.

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[48] July 2026 Application at PDF 238; s*ee also* July 2026 Application summary table at PDF 161.
[49] Permit at PDF 126, Cond. D.15.4(b).
[50] TSD, Appendix A at 1 and 53, PDF 420 and 472.

Required Action 11: If Boiler No. 7 is not to use BFG, the permit and underlying analysis need to reflect the fact that more BFG will be sent to the flares, and the calculations in the permitting application need to account for this 22,160 mmcf/yr of BFG going to the flares and generating SO2 there. Currently, the permit has no outlet for the additional generated BFG from the proposed increase in capacity at the plant. IDEM must require USS to update its calculations and IDEM must revise the permit, accordingly.

X. Emissions calculations cannot be relied upon without additional information about SO2 concentration in BFG.

The SO2 information provided by USS in the July 2026 Application raises some serious questions about the adequacy of sulfur monitoring in the blast furnace gas. Attachment Q of the 2025 Title V Permit sets forth a reasonable method for determining SO2 concentration from a cubic foot of BFG consumed, but this is what it says about frequency:

> Sampling/Analysis Frequency: At least one sample of BFG from each of the blast furnaces is to be obtained and analyzed during each calendar quarter. Obtained sample should represent typical operation parameters of each furnace. If more than one sample is obtained from any sampling location in any calendar quarter, the sulfur contents of the samples from a given sampling location are averaged to calculate the sulfur content of the gas at the sampling location. For each of the four blast furnaces, the 24-hour average heating values calculated from top gas analysis during a calendar quarter will be used to determine the heating value for BFG produced at each blast furnace.[51]

This allows the company to rely on only 1 sample to calculate emissions from BFG for an entire quarter. While it imposes an important requirement on USS to make sure that the result represents typical operation parameters of each furnace, BFG is a highly variable fuel source. That fuel variation will result in variable SO2 emissions, which makes this method insufficient to properly calculate SO2 (and other) emissions.

[51] Attachment Q of Part 70 Operating Permit Renewal No. T089-46943-00121 (May 7, 2025), at PDF 602.

The SO2 emissions table provided in the July 2026 Application reflects these issues, as shown below:[52]

U. S. Steel Corporation - Gary Works
Weighted Average SO2 EF for BFG Based on Estimated BFG Generation

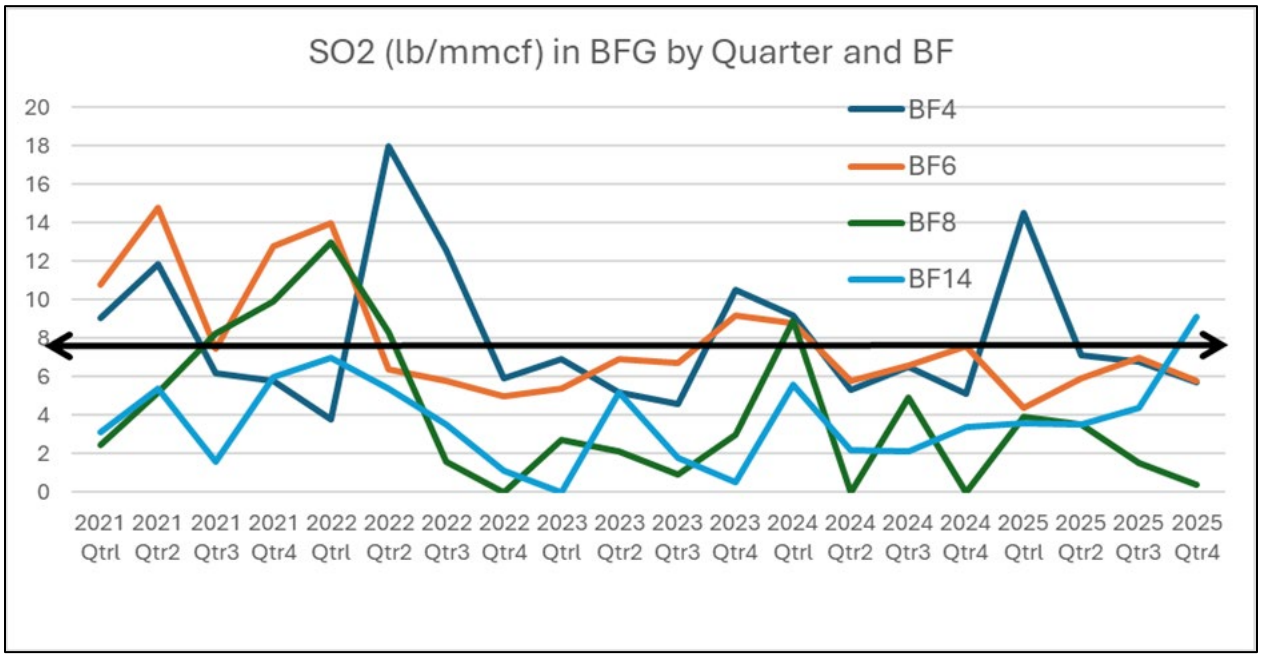
		4BF		6BF		8BF		14BF		Weighted average	
Year	Quarter	BFG (kSCF)	SO2 (lb/MMcf)	BFG (kSCF)	SO2 (lb/MMcf)	BFG (kSCF)	SO2 (lb/MMcf)	BFG (kSCF)	SO2 (lb/MMcf)	Qurarterly Avg. BFG SO2 (lb/MMcf)	12-month Avg. BFG SO2 (lb/MMcf)
2021	Qtr1	16,520,998	9.03	15,559,088	10.79	14,839,662	2.45	32,561,317	3.14	5.7	
2021	Qtr2	18,857,453	11.88	16,813,673	14.76	16,869,230	5.19	28,390,067	5.41	8.8	
2021	Qtr3	19,495,754	6.18	17,390,969	7.44	16,532,786	8.26	29,692,473	1.59	5.2	
2021	Qtr4	19,973,694	5.76	8,095,367	12.79	17,521,054	9.95	27,929,280	6.01	7.6	6.8
2022	Qtr1	17,228,136	3.8	14,952,360	14.0	16,441,287	13.0	29,947,467	7.0	8.9	7.6
2022	Qtr2	19,714,839	18.0	17,849,222	6.4	6,459,343	8.3	31,082,697	5.4	9.2	7.7
2022	Qtr3	16,269,282	12.6	15,648,772	5.8	10,187,998	1.6	35,425,004	3.5	5.6	7.8
2022	Qtr4	18,256,116	5.9	17,047,701	5.0	0	0.0	34,577,422	1.1	3.3	6.8
2023	Qtr1	20,267,975	6.9	18,513,271	5.4	4,992,889	2.7	35,227,746	0.0	3.2	5.4
2023	Qtr2	16,914,569	5.2	15,698,743	6.9	15,020,032	2.1	38,802,736	5.2	4.9	4.3
2023	Qtr3	13,229,803	4.6	17,004,281	6.7	15,992,208	0.9	34,395,814	1.8	3.1	3.7
2023	Qtr4	16,847,774	10.5	11,416,445	9.2	16,939,454	3.0	37,324,067	0.5	4.3	3.9
2024	Qtr1	16,749,335	9.2	15,647,139	8.8	15,388,118	8.9	35,997,163	5.6	7.5	5.0
2024	Qtr2	7,991,929	5.3	18,244,458	5.8	17,472,426	0.0	38,166,088	2.2	2.8	4.5
2024	Qtr3	18,872,796	6.5	17,900,234	6.6	16,789,072	4.9	33,812,877	2.1	4.5	4.8
2024	Qtr4	18,760,925	5.1	17,023,403	7.6	18,173,491	0.0	33,374,969	3.4	3.9	4.7
2025	Qtr1	18,177,534	14.5	16,039,901	4.4	18,277,822	3.9	33,196,044	3.6	6.1	4.4
2025	Qtr2	19,737,853	7.1	5,855,757	5.9	15,685,143	3.5	31,484,337	3.5	4.7	4.8
2025	Qtr3	17,345,243	6.8	17,150,040	7.0	16,008,934	1.5	35,354,463	4.4	4.9	4.9
2025	Qtr4	15,007,275	5.7	16,958,680	5.8	18,526,795	0.4	34,741,198	9.1	5.9	5.4

First, the table shows that similar amounts of BFG can result in very different SO2 amounts. For example, the highlighted pairs of readings for each blast furnace represent similar amounts of BFG combustion resulting in very different recorded SO2 emissions. Second, the table shows multiple instances where the measured SO2 was 0.0 lb/mmcf. It lacks credibility that average SO2 concentration for combusting BFG in the quarter will be zero. It is possible that a snapshot in time of BFG combustion could result in no SO2 emissions, but it is not credible to then use that number to represent SO2 emissions from a blast furnace for an entire quarter. It is probably also true that the highest SO2 value recorded is not representative of the SO2 produced during that quarter either.

When the SO2 amounts for each blast furnace in the table above are plotted in the chart below, you can see that back-to-back quarters can be highly different. This is evidence that SO2 emissions are not based on long term factors at the unit but rather the nature of a variable supply of inputs into the blast furnace. What you end up with is an assumption about a quarter of emissions based on one moment in time for months of important, uncontrolled SO2 emissions at each unit. USS and IDEM use the dark black line – 7.8 lb/mmcf – to calculate baseline SO2 emissions as well as projected SO2 emissions. This amount was calculated using a rolling 4-quarter weighted average of SO2 emission from all 4 blast furnaces ending in 3rd quarter 2022. These SO2 emission figures

[52] July 2026 Application at PDF 248.

are relied upon to demonstrate compliance with a SIP limit, permit limits, and NSR applicability past and future, so they must accurately reflect actual emissions at these units.



IDEM must change testing to a more reasonable method that better captures actual SO2 emissions at Gary Works. We suggest the following options, all of which are based on a presumption that you need to take a sufficient number of samples in a highly variable system to make reasonable conclusions about the actual emissions.

- Require more frequent testing – once per week and average emissions across the quarter.
- Require slightly more frequently (such as monthly) and average them on a 12-month rolling basis.
- Continue testing once per quarter but average over 3 years of data to get the same 12 data points as testing monthly. The emissions calculated in a quarter would use the result from this test and the previous 11 to calculate average SO2 per cubic foot of blast furnace gas.

Required Action 12: IDEM must revise the Draft Permit to establish a more scientifically supportable sampling frequency and reporting plan for SO2 BFG emissions.

Required Action 13: For the purposes of NSR applicability, USS must establish a reasonable baseline and projected SO2 emission factor that reflects SO2 emissions from the boiler generally rather than relying on a few tests**.**

XI. The Primary Project, the WBF Project, and the relining of Blast Furnace 14 are all substantially related and thus one project under NSR.

The company planned, announced, and applied to construct both the Primary Project and the WBF Project at the same time, and plan to execute them over the same timeframe.[53] During that same period, they also announced and completed the relining of Blast Furnace 14.[54] All three of these projects are related to the overall output at the facility, the quality of the product they make, and are investments in the long-term viability of steelmaking at the mill. Blast Furnace 14 has historically represented 41% of production capacity at Gary Works and is projected to represent 48% of the capacity after these projects.[55] The decision to rebuild the furnace, and the decision to modify the upstream and downstream equipment in the two projects addressed in this Draft Permit are linked.

An integrated iron and steel mill ("integrated mill") would not financially invest in relining or the projects addressed in this Draft Permit without the other. There is no reason USS would choose to improve multiple operations at the furnace if it were not also investing in the relining. An integrated mill would not reline the furnace with new materials and make the other numerous changes in the permitted projects without a desire to increase overall steel production at Gary Works. The investment in modern reheating technology at the walking beam furnaces is only justified by a reinvestment in the largest blast furnace unit at the mill to make steel for another 20 years. So, all three projects are substantially related and must be addressed together in this permitting action.

Required Action 14: IDEM must require USS to revise its application to include all three substantially related projects together in one permitting action.

XII. The relining of Blast Furnace 14 should have been included in the permitting action.[56]

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[53] *See* Press Release, United States Steel, U.S. Steel Unveils New Era of Growth (November 4, 2025), https://www.ussteel.com/media/newsroom/-/blogs/u-s-steel-unveils-new-era-of-growth; Press Release, United States Steel, U. S. Steel Makes Strategic Progress On Indiana Projects Backed By Nippon Steel Partnership (December 22, 2025), https://www.ussteel.com/media/newsroom/-/blogs/u-s-steel-makes-strategic-progress-on-indiana-projects-backed-by-nippon-steel-partnership.

[54] See Press Release, United States Steel, U.S. Steel Completes $350 Million Gary Works Blast Furnace #14 Reline, Returns Furnace to Service (September 3, 2026) ("USS Reline Press Release"), https://www.ussteel.com/media/newsroom/-/blogs/u-s-steel-completes-350-million-gary-works-blast-furnace-14-reline-returns-furnace-to-service; Press Release, United States Steel, U. S. Steel Makes Strategic Progress On Indiana Projects Backed By Nippon Steel Partnership (December 22, 2025), https://www.ussteel.com/media/newsroom/-/blogs/u-s-steel-makes-strategic-progress-on-indiana-projects-backed-by-nippon-steel-partnership.

[55] Percentage created by comparing the BFG baseline usages in 2023-2024 to the projected BFG usage, as provided in the July 2026 Application.

[56] Gary Advocates for Responsible Development, represented by Environmental Law & Policy Center sent U.S. Steel a Notice of Intent to Sue for U.S. Steel's failure to apply for and obtain a pre-construction New Source Review ("NSR") permit prior to beginning actual construction of its "modernization project" at the Gary Works integrated steel mill in Gary, Indiana, consistent with the requirements of the Clean Air Act and Indiana's State Implementation Plan ("SIP"), 40 C.F.R. § 52.770.

The relining of Blast Furnace 14 is a physical change that required a permit. USS improperly determined that the multi-month, $350 million project was exempted from major modification permitting as routine maintenance, repair, or replacement ("RMRR"). However, the RMRR exception to NSR pre-construction permitting requirements applies only to "changes of trivial regulatory concern on a *de minimis* rationale."[57] Additionally, the Seventh Circuit established the RMRR test in *Wisconsin Electric Power Co. v. Reilly*, 893 F.2d 901, 905 (7th Cir. 1990) ("*WEPCO*"). *WEPCO* requires a fact-specific analysis of the "nature, extent, purpose, frequency, and cost of the work, as well as other relevant factors, to arrive at a common-sense finding."[58] IDEM acknowledges that *WEPCO* continues to govern the RMRR exception.[59] The repeated assertions in IDEM's TSD that the changes were "in-kind" repairs and replacements do not change the applicability of *WEPCO*.[60] In fact, as IDEM acknowledges, EPA attempted to change the NSR rules to specifically exempt such repairs and replacements from NSR permitting, but that rule was stayed by the federal courts, and the *WEPCO* standard still applies.[61]

USS has publicly acknowledged that the relining took the blast furnace offline for 3 months, while more than 1,000 contractors put in over 1 million labor hours, and cost an estimated $350 million.[62] Additionally, USS applied for and received a permit for its previous reline of Blast Furnace 14 in 2005.[63] Thus, the RMRR exception does not apply under *WEPCO* and related guidance.[64]

IDEM also states that "[n]one of the major scope items [in the Blast Furnace No. 14 reline] increase furnace production or associated emissions."[65] The permit applications submitted by USS show that BF 14 will increase production by 19%. It is unclear how much of that increase is attributable to the relining and how much to the primary project, but increasing throughput at a blast furnace

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[57] *New York v. EPA*, 443 F.3d 880 (D.C. Cir. 2006).
[58] *Id.* (citations omitted).
[59] *See* Indiana Department of Environmental Management ("IDEM"), New Source Review (NSR) Reform for Prevention of Significant Deterioration (PSD) and Non-Attainment NSR Permitting Programs, https://www.in.gov/idem/airpermit/information-about/new-source-review/new-source-review-reform-background.
[60] *See* TSD at 12-14.
[61] *See* Indiana Department of Environmental Management ("IDEM"), New Source Review (NSR) Reform for Prevention of Significant Deterioration (PSD) and Non-Attainment NSR Permitting Programs, https://www.in.gov/idem/airpermit/information-about/new-source-review/new-source-review-reform-background.
[62] Press Release, United States Steel, U.S. Steel Completes $350 Million Gary Works Blast Furnace #14 Reline, Returns Furnace to Service (September 3, 2026) ("USS Reline Press Release"), https://www.ussteel.com/media/newsroom/-/blogs/u-s-steel-completes-350-million-gary-works-blast-furnace-14-reline-returns-furnace-to-service.
[63] *See e.g.*, Significant Source Modification No. 089-20118-00121 (October 20, 2005).
[64] *See, e.g.,* Letter from Doug Cole, EPA Region 10, to Alan Newman, State of Washington Dept. of Ecology, Re: Response to Inquiry Regarding Routine Maintenance, Repair and Replacement Analysis for Recovery Furnace Modifications at Longview Fiber, Longview Mill and Boise Cascade Corporation, Wallula Mill (Nov. 5, 2001), https://www.epa.gov/sites/default/files/2015-07/documents/20011105.pdf (applying the *WEPCO* factors to find the complete reconstruct of a furnace and a tube replacement project are both physical changes and not RMRR); Letter from R. Douglas Neeley, EPA Region 4, to Jimmy Johnson, Georgia Environmental Protection Division, Re: No. 1 Recovery Furnace Maintenance, Repair and Replacement Project, PCA Pulp and Paper Mill, Valdosta, Georgia (Sept. 13, 2000) (applying the *WEPCO* factors to find a furnace maintenance project involving replacement of many components, including the brick work, was not RMRR).
[65] TSD at 14.

outside of a relining in extremely challenging and therefore this large increase in production and therefore emissions is likely tied to a combination of changes that happened during the relining and those that will happen later during another phase of construction.

Additionally, while IDEM fails to analyze the reline under the *WEPCO* factors, the TSD treats the reline as a modification by purporting to provide a "project aggregation" analysis of the Blast Furnace 14 reline and the Primary Project.[66] We disagree with the outcome of IDEMs analysis about relatedness, but we agree the analysis is required since both the relining and the primary project are "modifications."

Thus, the relining of Blast Furnace 14 is a physical change that must be addressed by an air permit. Moreover, since those changes are part of the same project as the already major modification occurring with the Primary Project (as discussed above), the reline is also part of that major modification (and may be a major modification in and of itself given the general errors in emission calculations throughout the July 2026 Application.

Required Action 15: IDEM must require USS to revise its application to include the relining of Blast Furnace 14 as a major modification.

XIII. Since USS began actual construction of the 2026 Project prior to getting a permit, the sinter plant (or so-called "Recycle Plant") emission credits are unavailable.

As discussed above, the reline of Blast Furnace 14, the Primary Project, and the WBF project are all one project conceived of and completed together. Under the Clean Air Act, if a company wants to use an emissions reduction somewhere else in the plant to avoid requiring additional controls on the emissions units they are modifying, those credits must be enforceable and in place before beginning actual construction. Because USS already began (and in fact, completed) actual construction of the rebuild of Blast Furnace 14 (which is part of one related project), USS can no longer take emission credits for any changes yet to occur at the sinter plant. By hastily going forward with the Blast Furnace 14 rebuild without proper permitting, USS must now contend with the fact that the proposed project results in significant increases of PM and PM2.5.

Required Action 16: IDEM must require USS to recalculate NSR applicability without taking credits at the sinter plant ("recycle plant").

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[66] Technical Support Document (TSD) for a Part 70 PSD/Significant Source Modification and Significant Permit Modification, Indiana Department of Environmental Management, PSD/Significant Source Modification No.: 089-50605-00121 and Significant Source Modification No.: 089-50609-00121 at 12-14, PDF 317-319 (October 1, 2026), https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=84016928&dDocName=84025073&Rendition=web&allowInterrupt=1&noSaveAs=1.

XIV. The Draft Permit and both Applications include significant NOx emissions from a previously unknown source.

The annual emissions inventories submitted by USS include NOx emissions only from the blast furnace stoves and report no NOx from the blast furnace casthouses. However, the December 2025 and July 2026 Applications and Draft Permit (with related TSD) show the casthouses as a significant source of NOx and CO emissions, adding up to 500 tons/year of NOx and 560 tons/year of CO emissions at Gary Works. Prior to these Applications, the only reported NOx in Gary Works' annual emissions inventories was a *total* of 83 tons of NOx emissions from all four casthouses (which was based on use of an 0.03 lb NOx/ton hot metal emission factor from FIRE).

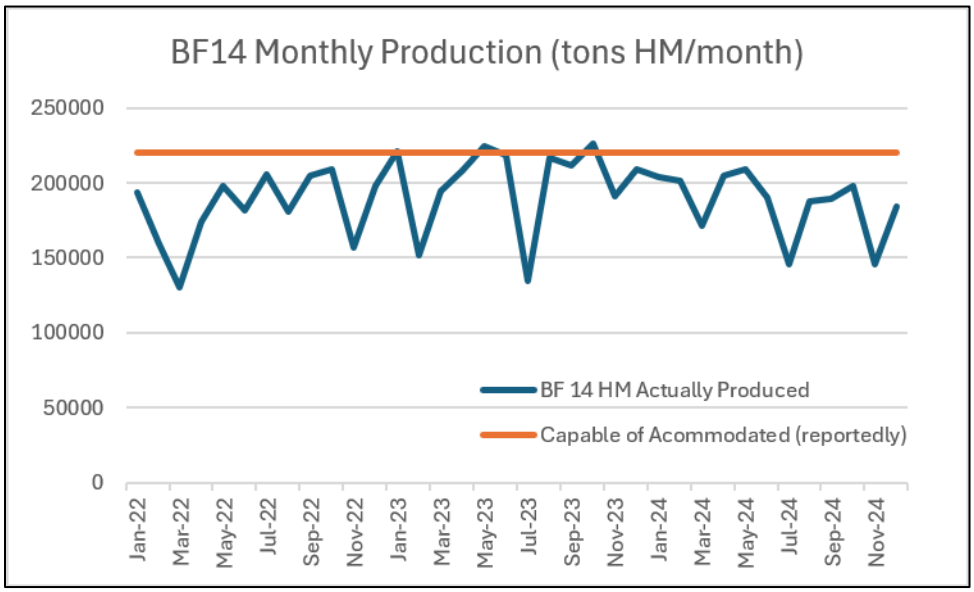
For blast furnaces 4, 6, and 8, the Draft Permit explains in the unit description that Gary Works uses NG as a part of a fume suppression system in the casthouses. The emissions calculations in both Applications and the Draft Permit reference an AP-42 factor for combustion. However, they do not explain what AP-42 factor they use for NOx or CO and how much NG is used. None of these combustion-related emissions have been reported before. NG should be reported separately for each casthouse, and combustion emissions should be calculated using the most reasonable AP-42 factor or a better alternative if available. If USS believes NG usage is always proportional to the amount of hot metal going through the casthouse, it could then show and derive an emission factor for use going forward. These emissions should be accounted for in annual emission inventories as well, as these are often used by states in nonattainment planning.

Required Action 17: IDEM must require USS to properly document the NOx and CO emissions from each casthouse, including separately reporting the NG use for each casthouse using the most reasonable AP-42 factor or a better alternative.

XV. The facility improperly applied the "capable of accommodating test" to zero out real increases at the plant associated with this project.

New Source Review under the Clean Air Act allows companies to exclude emissions they could have emitted – or where "capable of accommodating" – prior to a modification, but only if those emissions are unrelated to the modification. In this case, USS is assuming that 2/3 of the projected pollution increases from Blast Furnace 14 are unrelated to the increased production allowed by the Primary Project and therefore are emissions that Gary Works was "capable of accommodating" that should not count towards emissions increases that must be addressed in this permitting action. By doing this, USS would be authorized to make more steel and increase actual emissions occurring at Gary Works without any consequences or additional pollution controls. However, the ability to accommodate emissions is not the only standard that must be met to exclude those emissions under the test. The increases also must be proven to be unrelated to everything else in the combined project. Commenters could not identify anything in USS' July 2026 Application or IDEM's permit record that explains why most of the increases in production and emissions at Blast Furnace 14 are not related to the projects addressed in this permit.

In addition to the concern about the increases not being related, there is also significant doubt that USS could have maintained the level of production they assert there were "capable" of achieving over the 2-year baseline. The graph shows that while Blast Furnace 14 produced the "capable" rate for short periods in early 2023, the furnace experienced significant lower rates of production before, in the middle of, and after those peaks. While a furnace can be pushed hard for a short term, factors such as outages, maintenance, refractory wear, and other operating burdens inevitably cause the peak month to not in fact represent what the unit truly could have accommodated. Capable of accommodated is meant to *only* reflect increases from market conditions and cannot include increases related to short-term operating conditions that allow the unit to function at a higher sustained rate.[67] There is nothing in the record discussing market conditions during early 2023 or explaining how these short-term spikes were a result of such conditions.



Required Action 18: IDEM must either analyze the sustained rate that the baseline BF14 could have achieved over a 2-year period and address what increases were truly caused by market conditions and unrelated to the relining and primary project in the permit record, or USS must revise the applicability analysis to address all production increases and associated emissions from Blast Furnace 14 in this permitting action.

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[67] 67 Fed. Reg. 80186, 80203 (Dec. 31, 2002) ("Consequently, under today's new rules, when a projected increase in equipment utilization is in response to a factor such as growth in market demand, you may subtract the emissions increases from the unit's projected actual emissions if: (1) The unit could have achieved the necessary level of utilization during the consecutive 24-month period you selected to establish the baseline actual emissions; and (2) the increase is not related to the physical or operational change(s) made to the unit. See for example, new §52.21(b)(41)(ii)(c). On the other hand, demand growth can only be excluded to the extent that the physical or operational change is not related to the emissions increase. Thus, even if the operation of an emissions unit to meet a particular level of demand could have been accomplished during the representative baseline period, but the increase is related to the changes made to the unit, then the emissions increases resulting from the increased operation must be attributed to the project, and cannot be subtracted from the projection of projected actual emissions.").

XVI. Reheat Furnace and Waste Boiler baseline NOx emissions have no clear basis.

USS and IDEM use an emission factor of 215 lb/MMBtu to calculate NOx emissions from the reheat furnaces and waste boilers.[68] The Application references the 2023 emissions inventory and also says that NOx emission factors are based on unidentified "site-specific data."[69] The 2023 emissions inventory (as well as the emission inventories from 2024 and 2025) uses 280 lb/MMBtu for NOx, which is the AP-42 factor for large walled boilers, and also the highest factor for any combustion source in AP-42. For an uncontrolled boiler after 1971, that drops to 190 lb/MMBtu and many factors are much lower.[70] For the other boilers onsite, USS is using a much lower NOx emission rate. USS did not use a clear site-specific emission number or provide any basis for the numbers it did use.

Required Action 19: IDEM must determine the source of the 215 MMBtu/hr emission factor and determine if that is the correct factor that represents these units in the baseline period.

XVII. The Walking Beam Furnace NOx emissions compliance determination is not clear or sufficient.

The company claims that the Walking Beam Furnaces will achieve NOx rates of 0.09 lb NOx/MMBtu (roughly equivalent to 91.8 lb NOx/mmcf of NG), citing a specification from Tenova.[71] This equates to 716 tpy NOx, but the company has accepted a limit at 575 tons/year of NOx. The Draft Permit requires USS to test only once every 5 years to see if this emission factor is correct, with the first coming 180 days after start up. However, the emissions results from that test are never required to be used. Condition D.10.10 says the testing is "for the purpose of determining compliance with Condition D.10.4(d)," which is the requirement not to emit more than 575.1 tons per rolling 12-month period. However, D.10.8(d) says "Compliance with the NOx limit in Condition D.10.4(d) shall be determined using 91.8 lb/mmcf of NG or the NOx emission rate established in the latest last stack test." There is no requirement for USS to, in fact, use the result from the most recent test; if the test showed that actual emissions are higher than 91.8 lb/mmcf, USS could use the lower emission factor instead.

Furthermore, there is no requirement for more testing if emissions are variable or problematic. Stack testing once every 5 years is very infrequent for a new unit in a serious nonattainment area where NOx is the predominate emission.

Required Action 20: IDEM must revise the Draft Permit to include adequate monitoring to assure compliance with the NOx emissions limit. Specifically, IDEM should require USS to use the

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[68] *See* Draft Permit at PDF 512 and July Application at PDF 250.
[69] July 2026 Application at PDF 250.
[70] *See generally* AP-42 for Natural Gas Combustion Sources, Chapter 1.4, Table 1.4-1, https://www.epa.gov/sites/default/files/2020-09/documents/1.4_natural_gas_combustion.pdf.
[71] July 2026 Application at PDF 250.

emissions results from the stack test to calculate compliance, require more frequent stack testing than once every 5 years, and/or install CEMS for continuous monitoring.[72]

XVIII. The analysis of and conditions addressing Carbon Monoxide ("CO") Best Available Control Technology ("BACT") are insufficient.

Because it is undisputed that the Primary Project is a major modification for CO emissions, the modified emission units must control CO emissions with an emission limit using the best available control technology or "BACT." BACT is an "emission limitation based on the maximum degree of reduction…which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant."[73]

As EPA has explained, the analysis required to determine the BACT limit "is a site-specific, pollutant-specific determination that results in the selection of emissions limits representing application of air pollution control technologies or methods appropriate for the facility in question."[74] While neither the CAA nor EPA regulations require a specific type of analysis to determine BACT emission limits, EPA has long advised that conducting a top-down BACT analysis will ensure compliance with the Act's BACT requirement,[75] which IDEM adopts in this permitting action based on information in USS's application.[76] The top-down analysis entails the following five steps:

Step 1: Identify all available control technologies.
Step 2: Eliminate technically infeasible options.
Step 3: Rank remaining control technologies.
Step 4: Evaluate most effective controls and document results.
Step 5: Select the BACT.[77]

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[72] In IDEM's Draft Permit Approval Letter, IDEM states that the walking beam furnaces will have "a continuous emissions monitoring system for NOx on the stack," though this is not included in the Draft Permit itself. Draft Permit at PDF 8.
[73] 42 U.S.C §§ 7475(a)(4) and 7479(3)(emphasis added).
[74] *In re Palmdale Energy, LLC*, 14 E.A.D. 620, 652 (EAB 2018), *citing In re N. Mich. Univ.*, 14 E.A.D. 283, 291 (EAB 2009).
[75] EPA, PSD and Title V Permitting Guidance for Greenhouse Gases (March 2011), https://www.epa.gov/sites/production/files/2015-12/documents/ghgpermittingguidance.pdf ("GHG Permitting Guidance"), 17-18. Note that in the GHG Permitting Guidance, EPA summarized and updated many of the PSD permitting concepts applicable to all air pollutants as originally set forth in the Draft New Source Review Workshop Manual (October 1990) and other EPA guidance documents and court cases. *Id.* at 19-20.
[76] *See generally* TSD, Appendix B: Best Available Control Technology (BACT) Determination ("TSD-BACT"), at 1, 3-5.
[77] *Id.* at 3-5.

In conducting a top-down BACT analysis, EPA has specified that "the permitting authority must evaluate the amount of emissions reductions that each available emissions-reducing technology or technique would achieve…to establish a numeric emissions limitation that reflects the maximum degree of reduction achievable for each pollutant subject to BACT through the application of the selected technology or technique."[78] In cases such as this Gary Works modification, where the modified units can use a variety of fuels (such a BFG and NG), the BACT analysis must examine the fuels separately and in different combinations, with resulting emission limits and related permit requirements.[79] Relatedly, the air permit must include adequate testing, monitoring, recordkeeping, and reporting requirements to demonstrate compliance with the BACT limit.[80]

IDEM evaluated CO BACT for the following new and modified units resulting the Primary Project: the Turboblower Boiler House Boiler No. 7 ("Boiler No. 7"; unit OTB60468), the No. 1 BOP Shop R-H Vacuum Degasser ("BOP Degasser"; unit NSVD0272), the R-H Vacuum Degasser Operation Natural Gas-fired Heating Equipment ("Degasser Heating"; units G201P12, G201P13, and G201P14), the No. 4, 6, 8, and 14 Blast Furnace Stoves ("BF Stoves"), the No. 4, 6, 8, and 14 Blast Furnace Casthouses ("BF Casthouses"), the No. 4, 6, 8, and 14 Blast Furnace Slips ("BF Slips"), and the No. 4, 6, 8, and 14 Blast Furnace Slag Pits ("BF Slag Pits").[81] That analysis resulted in BACT selections for all units except the BF Slag Pits, for which IDEM concluded there are no known control options for CO emissions.[82] IDEM's analysis of the other units concludes that BACT for CO emissions is as follows:

- Boiler No. 7 - good combustion practices and specific numeric lb/MMscf emission limits depending on the fuel combusted;[83]
- BOP Degasser - good combustion practices, use of a flare with a 98% minimum CO reduction efficiency, and a CO emission rate of 5.3 lb/hour;[84]
- Degasser Heating - good combustion practices and a CO emission limit of 84 lb/MMscf;[85]
- BF Stoves - good combustion practices and specific numeric lb/hr CO emission limits for each stove;[86]

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[78] *See* GHG Permitting Guidance at 17 (emphasis added).
[79] *See* Guidance for Determining Best Available Control Technology for Reducing Carbon Dioxide Emissions From Bioenergy Production (March 2011), https://www.epa.gov/sites/production/files/2015-12/documents/bioenergyguidance.pdf, at 15-16 (explaining that where a source can use multiple fuel types or combinations "the list of BACT options [in step 1] should include the option of utilizing both types of primary fuels in different combinations" which would carry through to the remaining BACT analysis); *In re N. Mich. Univ.*, 14 E.A.D. 283, 295-303 (EAB 2009) (finding PSD permit inadequate where the permitting authority examined a number of different wood and fossil fuel mixtures in the BACT clean fuels analysis but failed to justify selection of BACT as burning the combination with the lowest wood content).
[80] *In re: ConocoPhillips Co.*,13 E.A.D. 768,___ (Slip Op. at 23) (EAB 2008), citing the 1990 NSR Manual at B.56 and *In re Shell Offshore, Inc.,* 13 E.A.D. at 357(EAB 2007).
[81] *See generally* TSD-BACT at 1-3 (unit descriptions) and 5-17 (unit-specific BACT analyses).
[82] *Id.* at 17.
[83] *Id.* at 7.
[84] *Id.* at 9.
[85] *Id.* at 12.
[86] *Id.* at 14-15.

- BF Casthouses - good operating practices and a CO emission limit of 0.21 lb/ton of hot metal produced for the BF No. 14 Casthouse only;[87] and
- BF Slips - good operating practices.[88]

As explained below, IDEM's BACT analysis for CO emissions from the TBBH Boiler No. 7 is incomplete, the Draft Permit contains inadequate and unenforceable conditions for these CO BACT selections, and the Draft Permit lacks sufficient monitoring, recordkeeping, and reporting to assure compliance with the CO BACT limits.

A. Incomplete Boiler No. 7 BACT analysis

The BACT analysis for Boiler No. 7 includes use of oxidation catalysts as a potential control technology at Step 1 but then eliminates it as infeasible because of the accompanying reactivity of SO2 emissions resulting from use of BFG.[89] However, as acknowledged elsewhere in the Boiler No. 7 BACT analysis, oxidation catalysts have been used NG-fired boilers in nonattainment areas and this boiler unit will combust both BFG and NG, either alone or in combination.[90] Accordingly, the BACT analysis is incomplete because IDEM has not justified elimination of the use of oxidation catalysts as BACT for Boiler No. 7 when it is combusting only NG. If this control option remains viable throughout the remaining BACT analysis, it would result in a more stringent CO limit when Boiler No. 7 is combusting NG at the Step 5 analysis, and the CO BACT emission limits in Condition D.15.2 would need to be revised accordingly.[91]

Required Action 21: IDEM must revise the Boiler No. 7 BACT analysis to address use of oxidation catalyst when Boiler No. 7 is combusting only NG and revise the CO BACT limit for NG in Condition D.15.2(a) as appropriate.

Additionally, the proposed numeric limit for CO BACT at Boiler No. 7 is inadequate as it is equivalent to the emissions from Gary Works' existing boilers, which were constructed between 1948-1971. Certainly, a new, well-tuned boiler can achieve a much lower rate. The proposed numeric limits, therefore, cannot reasonably represent BACT.

Required Action 22: IDEM must revise the CO BACT provisions in Condition D.15.2(a)(2)-(4) for Boiler No. 7 to reflect CO BACT for a *new* boiler. [92]

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[87] *Id.* at 16.
[88] *Id.* at 17.
[89] TSD-BACT at 5.
[90] *Id.* at 7 (selecting BACT emission rate limits that depend on specific fuel use).
[91] *See* Permit at 119, Cond. D.15.2(a)(3) and (4) (limits when combusting natural gas only and in combination with BFG, respectively).
[92] The fact that other permitting authorities have issued permits with similar limits is not sufficient to address this comment because there is no evidence that any of these authorities actually examined whether more recent advances in boiler technology should result in lower BACT limits. If each permitting authority simply adopts the limits of prior authorities without additional analysis, then limits remain the same across sources for decades, which negates the technology forcing nature of the BACT analysis.

B. Inadequate and Unenforceable BACT limits

As summarized above, IDEM's BACT analysis concluded that "good combustion practices" or "good operating practices" represented BACT for most emission units. However, the specific conditions in the Draft Permit do not specify what must actually occur at these units in order for Gary Works must do to comply with these "good practice" BACT requirements.[93] IDEM also does not explain these "good practice" requirements or how to determine compliance with them in the TSD, either in the general section summarizing the 326 IAC 2-2-3 (PSD Rule: Control Technology Review Requirements) or in the Step 5 selection of BACT for each unit in the detailed Appendix.[94]

As EPA has made clear, BACT conditions in a PSD permits – such as "good combustion practices" or "good operating practices" at issue here – must "be enforceable as a practical matter" such that they contain "compliance verification procedures and recordkeeping requirements."[95] Accordingly, EPA has advised permitting authorities that "good" operating or combustion practices that represent BACT limits in permits "should be explained/defined; otherwise, the owner/operator may interpret the meaning of good combustion practice differently from the department's interpretation; the end result may be a provision not enforceable…from a practical standpoint if the condition or the [permitting authorities'] rules lack specificity regarding the meaning of good combustion practices."[96] In addition, since these PSD BACT limits are being incorporated as a Part 70 PSD/Significant Source Modification to Gary Works' existing Title V permit, the "good" work practice limits must also meet the Title V requirements to include compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with them.[97] IDEM must also provide its rationale for these proposed permit conditions and document that rationale in the permit record.[98] Finally, EPA has explained that the permit conditions of Title V permits must be "unambiguous"[99] and must allow IDEM, EPA, and the public to "take appropriate enforcement action" if its terms are exceeded.[100]

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[93] *See* Draft Permit at 119, Cond. D.15.2 (TBBH) 88, Cond. D.8.2 (BOP Degasser and Degasser Heating), and 78-79, Cond. D.7.4 (BF Stoves, BF Casthouses, and BF Slips).

[94] *See* TSD at 39-40 and TSD-BACT at 7, 9, 12, 14-15, 16, and 17 (BACT selection for TBBH, BOP Degasser, Degasser Heating, BF Stoves, BF Casthouses, and BF Slips, respectively).

[95] EPA, New Source Review Workshop Manual (Draft, Oct. 1990), https://www.epa.gov/sites/default/files/2015-07/documents/1990wman.pdf, at B. 56.

[96] Letter from JoAnn M. Heiman, Chief, Air Permitting and Compliance Branch, US EPA Region 7, to Kyra L. Moore, Chief, Permit Section, Air Pollution Control Program, Missouri Department of Natural Resources, Re: PSD – Buzzi Unicem, Festus, MO – proposed expansion project (Oct. 2, 2005), https://19january2021snapshot.epa.gov/sites/static/files/2015-08/documents/20051020_buzzi_unicem_psd_comments.pdf, at 3.

[97] 42 U.S.C. § 7661c(c); 40 C.F.R. § 70.6(c)(1).

[98] *In the Matter of Montgomery County Resource Recovery Facility*, Pet. No. III-2019-2 (Dec. 11, 2020), https://www.epa.gov/sites/default/files/2020-12/documents/montgomery_response2019.pdf *("Montgomery County Order"*), at 8, citing 40 C.F.R. § 70.7(a)(5).

[99] *In the Matter of Tesoro Refining and Marketing Co. Martinez, California Facility* (March 15, 2005), https://www.epa.gov/sites/default/files/2015-08/documents/tesoro_decision2004.pdf ("*Tesoro Order*"), at 9.

[100] *In the Matter of Orange Recycling and Ethanol Production Facility, Pencor-Masada Oxynol, LLC* (Apr. 8, 2002), https://www.epa.gov/sites/default/files/2015-08/documents/masada-2_decision2001.pdf ("*Pencor-Masada Order*"), at 7.

The TSD BACT analysis does attempt to explain "good combustion practices" for Boiler No. 7, BOP Degasser, Degasser Heating, and BF Stoves in the Step 1 BACT analyses by noting that they "as the term implies, are based upon maintaining good fuel/air mixing, a proper fuel/air ratio, and adequate time at the required combustion temperature."[101] But even if IDEM had copied this information into specific conditions, as it should have, in the Draft Permit, they would still be inadequate because IDEM does not indicate which fuel/air mixing is considered "good," what fuel/air ratio is "proper," what combustion time is "adequate," or what is the "required" combustion temperature for each of the specific units to which these BACT limits apply. More problematic, IDEM provides *no* explanation of what are considered "good operating practices" at the BF Casthouses and BF Slips in the TSD BACT analysis.[102] And as noted above, there is no such information provided in the Draft Permit for any of these BACT conditions requiring "good" practices. This lack of specificity is especially concerning for assuring compliance with the CO BACT at the BF Slips and the BF Casthouses for Blast Furnaces No. 4, 6, and 8, since "good operating practices" are the sole BACT requirement.[103]

Accordingly, the CO BACT limits in the Draft Permit are inadequate because they do not specify what constitutes "good" operating or combustion practices for these various units, thus making them unenforceable because it is impossible for USS, IDEM, EPA, or the public to determine whether Gary Works is compliance with them and achieving the "maximum degree of reduction" in CO emissions as required under the Clean Air Act.[104]

Required Action 23: IDEM must (1) revise the CO BACT provisions in Condition D.15.2(a)(1) for Boiler No. 7, Conditions D.8.2(a)(1) and (b)(1) for the BOP Degasser and Degasser Heating, and Conditions D.7.4(a)(1), (b)(1), and (c)(1) for the BF Stoves, BF Casthouses, and BF Slips to specify what constitutes "good" combustion or operating procedures at each of these units and (2) revise the Draft Permit to include accompanying monitoring, recordkeeping, and reporting requirements to assure compliance with "good" practices required as BACT.[105]

C. Inadequate monitoring, recordkeeping, and reporting of CO BACT requirements

In addition to the general lack of specificity regarding "good" combustion and operating practices discussed above, the Draft Permit also lacks adequate testing, monitoring, recordkeeping, and reporting requirements for Gary Works to demonstrate compliance with the numeric CO emission

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[101] *See* TSD-BACT at 5, 8, 10, and 13 (TBBH, BOP Degasser, Degasser Heating, and BF Stoves, respectively).
[102] *Id.* at 15-16 and 16 -17(BF Casthouses and BF Slips, respectively).
[103] *Id.* at 16 and 17 (BACT selection for BF Casthouses and BF Slips) and Draft Permit at 79, Cond. D.7.4(b)(1) and (c)(1) (BACT limits for the BF Casthouses and BF Slips).
[104] 42 U.S.C §§ 7475(a)(4) and 7479(3)(emphasis added).
[105] In so doing, IDEM cannot rely on accompanying numeric CO limits since (1) no such limits exist for the BF Slips and the BF Casthouses for Blast Furnaces No. 4, 6, and 8, and (2) compliance provisions for those CO limits are inadequate as explained below.

limits also determined to be BACT for the new and modified emission units at the Boiler No. 7, BOP Degasser, Degasser Heating, and BF Stoves, BF No. 14 Casthouse.[106]

As explained above, since IDEM is adding these PSD BACT limits as a Part 70 PSD/Significant Source Modification to Gary Works' existing Title V permit, CO numeric emission limits must also meet the Title V requirements to include compliance certification, testing, monitoring, reporting, and recordkeeping necessary to assure compliance with the terms and conditions of the permit.[107] IDEM's must clearly state and document its rationale for each proposed permit condition,[108] and the frequency of monitoring must be sufficiently aligned with the time period used in the limits so that they are "representative of the source's compliance with the permit."[109] Finally, the numeric CO BACT limit and accompanying monitoring, recordkeeping, and reporting must be unambiguously enforceable so that IDEM, EPA, and the public can determine Gary Works' compliance with them and "take appropriate enforcement action" if its terms are exceeded.[110]

The Draft Permit fails to meet this standard. As a general matter, Commenters are unable to identify *any* assessment, selection, discussion, or other rationale in the TSD's "Compliance Determination and Monitoring Requirements" section or in the accompanying BACT Appendix regarding the necessary monitoring, recordkeeping, and reporting to assure compliance with the numeric CO emission limits selected as BACT.[111] In fact, the list of the "Compliance Monitoring Requirements applicable to this proposed modification" contained in the TSD contains no mention of the CO BACT emission limits at all.[112]

Required Action 24: IDEM must provide an analysis of the monitoring, recordkeeping, and reporting necessary to assure compliance with each CO BACT limit finalized in this permitting action and revise the Draft Permit to include the resulting terms, as necessary (see discussion of specific limits below).

D. Failure to assure compliance with specific CO BACT requirements

Given IDEM's lack of a rationale regarding the necessary monitoring, recordkeeping, and reporting for these BACT limits, it is unsurprising that the "Compliance Determination Requirements" for each of the new and modified PSD emission units in the resulting Draft Permit

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[106] *See* TSD at 39-40 (BACT limit summary) and TSD-BACT at 7, 9, 12, 14-15, and 16, (BACT selection for TBBH, BOP Degasser, Degasser Heating, BF Stoves, BF No. 14 Casthouse, respectively).
[107] 42 U.S.C. § 7661c(c); 40 C.F.R. § 70.6(c)(1).
[108] *Montgomery County Order* at 8.
[109] Sierra Club v. EPA, 536 F.3d 673, 675 (D.C. Cir. 2008)).
[110] *Pencor-Masada Order* at 7; *see also Tesoro Order* at 9.
[111] *See* TSD at 48-56 (the only mention of CO BACT emissions is a restatement of the requirements to run the BOP Degasser flare on page 50) and TSD-BACT at 7, 9, 12, 14-15, 16, 17 (no discussion of monitoring in the BACT selection discusses for the various new and modified units).
[112] TSD at 55-56 (all monitoring addresses PM limits and related visible emissions).

are inadequate to confirm compliance with the numeric CO BACT emission limits, for the reasons discussed below:

1. Numeric CO emission limits for the BF Stoves in Conditions D.7.4(a)(2)-(5):

Condition D.7.11(d) requires "CO testing on the [BF Stoves] for the purposes of determining compliance with D.7.4(a)" within 180 days of completion of the modification and then every five(5) years after, while Conditions D.7.13(b) and D.7.17 require use of flares and monitoring pilot lights for addition CO control.[113] However, IDEM has not explained how stack testing once every 5 years will assure continuous compliance with the hourly numeric CO emission limits in Conditions D.7.4(a)(2)-(5). IDEM cannot rely on the other BACT conditions – "good combustion practices" (which is also problematic, as explained below) and use of flares – to address ongoing CO control obligations in the long duration between the stack testing events, because neither the stack testing requirement in Condition D.7.11(d) nor the reporting requirements in Condition D.7.18 (or any of the other compliance determination provisions) require USS to report the results of the CO stack testing.[114] Thus, there is no way for USS, IDEM, EPA, or the public to confirm that the BF Stoves are actually complying their BACT CO emission limits every five years, much less on a continuous basis, and enforce the limits if necessary.

Required Action 25: IDEM must (1) revise the permit to require reporting of the CO testing for the BF Stoves and (2) either explain how stack testing once every five years is sufficient to assure continuous compliance with the BACT CO pound/hour emission limits or include additional testing or other compliance obligations as necessary to assure such compliance.

2. Numeric CO emission limits for the BF No. 14 Casthouse in Condition D.7.4(b)(2):

This condition specifies that CO is emitted at the "No. 14 Blast Furnace casthouse baghouse stack."[115] However, there are no specific conditions in the "Compliance Determination Requirements" of section D of the Draft Permit that require monitoring, recordkeeping, or reporting of compliance with the CO emission limits in Condition D.7.4(b)(2) or that address CO emissions from the No. 14 Blast Furnace Casthouse baghouse stack generally.[116] In fact, the Draft Permit does not appear to specify exactly how USS will measure the amount of CO emissions per ton of hot metal produced as required by the BACT emission limit. Thus, the Draft Permit is inadequate because it fails to include *any* conditions specifying how USS will measure or otherwise assure compliance with the numeric CO BACT limit for the BF No. 14 Casthouse, nor does it include the monitoring, recordkeeping, and reporting requirements necessary to enforce that limit.

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[113] *Id.* at 81 and 83.
[114] *Id.* at 81 and 84-85.
[115] *Id.* at 78.
[116] *See generally id.* at 81-85, Conditions D.7.11-D.7.18.

Required Action 26: IDEM must revise the Draft Permit to include monitoring, recordkeeping, and reporting of the CO emissions from the Blast Furnace No. 14 Casthouse to assure compliance with the numeric BACT emission limit in Condition D.7.4(b)(2).

3. Numeric CO emission limits for the BOP Degasser in Condition D.8.2(a)(3) and the Degasser Heaters in Condition D.8.2(b)(2):

The only "compliance determination" terms to address CO emissions at these units are contained in Condition D.8.11, but it only requires the use of the flare to be in operation at all times the BOP Degasser; it does not contain any requirements relating to the numeric CO emission limits.[117] The Draft Permit is unclear how USS is supposed to measure actual CO emissions from these units. Likewise, nothing in the remaining monitoring or recordkeeping and reporting requirements that specific reference Conditions D.8.2(a)(3) and D.8.2(b)(2) or otherwise address the numeric CO emission limits that were selected as BACT for these units.[118] Accordingly, the Draft Permit is insufficient to assure BACT compliance because it fails to include *any* conditions that can be used to assure compliance with the 5.3 lb/hour CO limit for the BOP Degasser and the 84 lb/mmcf CO limit for Degasser Heaters or to otherwise enforce those limits.

Required Action 27: IDEM must revise the Draft Permit to include monitoring, recordkeeping, and reporting of the CO emissions from the BOP Degasser and Degasser Heaters to assure compliance with the numeric BACT emission limit in Condition D.8.2(a)(3) and Condition D.8.2(b)(2).

4. Numeric CO emission limits for Boiler No. 7 in Condition D.15.2(a)(2), (3), and (4):

The Draft Permit contains three different numeric CO BACT limits for Boiler No. 7 – one limit when combusting BFG, one limit when combusting NG, and a weighted average limit when combusting both BFG and NG, based on the proportion of each fuel used.[119] The only compliance provision addressing the TBBH CO emission limit is contained in Condition D.15.12(a), which requires "CO testing" for the purposes of determining compliance with D.15.2 "within 180 days after initial start-up" and then every five (5) years after.[120] Nothing in the remaining monitoring or recordkeeping and reporting requirements specific reference Conditions D.15.2 or otherwise address the numeric lb/MMscf CO emission limits that were selected as BACT for Boiler No. 7.

There are several deficiencies in this approach. First, IDEM has not explained how stack testing once every 5 years will assure continuous compliance with the hourly numeric CO emission limits

[117] Draft Permit at 90-91.
[118] *See generally id.* at 91-93, Conditions D.8.12-D.8.13.
[119] Draft Permit at 119, Cond. D.15.2(a)(2)-(4).
[120] *Id.* at 123-124.

in Condition D.15.2. Second, while the CO BACT emission limits for Boiler No. 7 are determined based on the exact fuel or fuel blend combusted, there is no requirement in Condition D.15.12(a) to perform the CO stack testing with BFG, NG, and blends of those fuels at different ratios, which is necessary to determine whether the CO emissions (at least at the time of testing) comply with the three different CO emission limits in Condition D.15.12(a). Third, there is no requirement to report the outcome of this sporadic stack testing. And finally, there are no requirements to monitor, record, or report the exact fuels used at Boiler No. 7 on an ongoing basis for CO compliance purposes, to otherwise calculate the resulting CO emission between the stack tests, or to dictate conditions related to boiler performance such as tune-ups and air/fuel ratio monitoring and control. Accordingly, there is no way for USS, IDEM, EPA, or the public to confirm that the CO emission from Boiler No. 7 comply the BACT lb/MMscf emission limits every five years, much less on a continuous basis, and enforce the limits if necessary.

Required Action 28: IDEM must (1) revise Condition D.15.12(a) to require CO testing with various fuel blends (from 100% BFG and 100% NG), (2) revise the Draft Permit to requiring reporting of that CO testing, (3) revise the Draft Permit to require USS to record the fuel used at Boiler No. 7, including exact the proportions of BFG and NG in any blends,[121] and (4) either explain how stack testing once every five years is sufficient to assure continuous compliance with the BACT CO lb/MMscf emission limits or determine the additional testing, monitoring, recordkeeping, and reporting requirements as necessary to assure such compliance and revise the Draft Permit to include them.

XIX. The compliance requirements for TBBH Boiler No. 7 are contradictory.

The Technical Support Document ("TSD") states that "the source has elected to only burn NG to render the requirements of 326 IAC 7-1.1 not applicable" at TBBH Boiler No. 7,[122] but the new NOx RACT provisions for Boiler No. 7 require "that greater than fifty percent (50%) of the heat input is derived from blast furnace gas averaged over an ozone control period" to comply with 326 IAC 10-3-2(1). USS cannot comply with both of these inherently contradictory terms contained in the Draft Permit. Moreover, the estimates for all emissions resulting from the projects authorized by the Draf Permit in the TSD were that BFG would represent 90% of the total heat input,[123] and the Draft Permit specifically states that Boiler No. 7 is "equipped to combust blast furnace gas and natural gas" and sets CO BACT limits for NG, BFG, and a blend of the fuels.[124]

Required Action 29: IDEM must clarify which fuel sources can be used at TBBH Boiler No. 7 and ensure that Gary Works complies with the necessary Indiana rule requirements.

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[121] We noted that while Conditions D.15.14(a) and (b) contain various fuel recordkeeping at the TBBH for compliance with other permit terms, those provisions do not address fuel blends as necessary to assure compliance with the TBBH CO emission limits. *See* Draft Permit at 124-125.
[122] Draft Permit at PDF 346.
[123] Draft Permit at PDF 472.
[124] Draft Permit at PDF 118 (Emissions Unit Description (d)) and 119 (Condition D.15.2)).

XX. The Draft Permit does not adequately or fully explain the modifications that are actually included in this SSM/SPM.

Neither the Draft Permit nor the TSD adequately or fully explain the modifications included in this permitting action. In fact, it includes more detail on the Blast Furnace 14 reline – which is NOT part of the permit (although, as shown above, it should be) – than it does on the changes supposedly authorized by the Draft Permit. For example, IDEM summarily notes that blast furnaces 4, 6, and 8 are approved for modification.[125] However, the agency fails to explain what exact modifications are occurring at these blast furnaces, while it provides more detail for changes from the blast furnace 14 reline.[126] Even USS' application just says the company may modify these other furnaces but does not commit to exactly where or what those modifications will entail.[127] Without an explanation and understanding of the specific changes occurring in the proposed Projects, neither IDEM nor the public can confirm whether the projected emission changes could reasonably be attributed to those changes, nor can anyone confirm whether USS is undertaking only those changes specifically considered in and authorized by the Draft Permit.

Required Action 30: IDEM must fully explain the modifications at blast furnaces 4, 6, and 8, as well as at the No. 1 BOP Shop operations, No. 2 QBOP Shop operations, and the upgrades of the baghouses, determine the emission changes resulting from them, and address those changes as required in the permit and underlying analysis.

XXI. The Draft Permit does not include the Compliance Assurance Monitoring Plan.

As the relevant permitting authority, IDEM must "ensure that the [T]itle V permit 'set[s] forth' monitoring to assure compliance with all applicable requirements."[128] "Applicable requirements" include, among other things, any requirements of a federally enforceable state implementation plan ("SIP") and any preconstruction requirements that are incorporated into the Title V permit.[129]

Under the Part 70 rules, the Compliance Assurance Monitoring ("CAM") requirements of 40 C.F.R. § 64 are "applicable requirements" for any units at Gary Works that are subject to CAM requirements under 40 C.F.R. § 64.2. CAM requirements apply to any emission unit that (1) is subject to an emission limitation or standard for the pollutant; (2) uses a control device to comply with that emission limitation or standard; and (3) has "potential *pre-control device* emissions"

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[125] *See* TSD at 7-8.
[126] *See* TSD at 12-14.
[127] *See* July 2026 Application at 2-3, PDF 11 (listing changes at blast furnaces 4, 6, and 8 as "[m]ay replace tops for No. 6 BF and No. 8 BF with improved design components[, i]mprove injection rates for natural gas and pulverized coal by making changes to the injectors, piping, and other components[, and] [p]otential hot blast temperature upgrade for the blast furnaces").
[128] 42 U.S.C. § 7661c(c).
[129] 40 C.F.R. § 70.2 (definition at "applicable requirement" at (1) and (2)); *Pacific Coast Order* at 7 ("applicable requirements include the requirement to obtain preconstruction permits that comply with preconstruction review requirements under the Act, EPA regulations, and State Implementation Plans").

equal to or greater than the major source threshold for the regulated pollutant involved.[130] For emissions units subject to CAM, permittees must design, and get approved, a monitoring program using the criteria outlines in 40 C.F.R. § 64.3 which is commonly called a CAM Plan. The Draft Permit fails to assure compliance with all applicable requirements because it does not include the CAM Plans.

USS is required to prepare and implement CAM Plans for multiple emissions units covered by this Draft Permit which have the potential to emit significant amounts of regulated pollutants, are subject to an emissions limitation, and use a control device to comply with that emissions limitation.

IDEM has identified that USS must submit a CAM Plan for these new and modified emission units:[131]

- one R-H Vacuum Degasser, identified as NSVD0272, which is considered as an "other unit" for CO, and
- two Coolers, identified as ISC10385 and ISC30387, the alloy handling system, identified as G201P09, and the two slab grinder lines, identified as SG1 and SG2, which are each considered as an "other unit" for PM, PM10, and PM2.5.

IDEM nonetheless failed to include CAM Plans for these units in the Draft Permit. In fact, IDEM is only requiring USS to submit a CAM Plan for these units "as part of the Part 70 Operating Permit Renewal application"[132] which is not due until August 2029.[133]

Additionally, despite Draft Permit purportedly wrapping in the requirements of the Title V permit under the SPM, the Draft Permit fails to include an evaluation of *all* of the emissions units requiring CAM.[134] This includes three coal pulverization equipment train preheaters, identified as SS-1, SS-2, and SS-3, for PM10 and PM2.5[135] and pig iron casting for PM, PM10, and PM2.5.[136]

IDEM must include these CAM Plans as part of the Permit so that the source, the regulators, and the public can ensure that USS is complying with the requirements contained in the plans.

Required Action 31: IDEM must require USS to immediately submit CAM Plans for the R-H Vacuum Degasser, identified as NSVD0272 for CO; two Coolers, identified as ISC 10385 and ISC 30387 for PM, PM10, and PM2.5; the alloy handling system, identified as G201P09 for PM, PM10, and PM2.5; and two slab grinder lines, identified as SG1 and SG2 for PM, PM10, and

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[130] 40 C.F.R. § 64.2(a) (emphasis added).
[131] TSD at 34-35, PDF 339-340.
[132] TSD at 35-36, PDF 340-341.
[133] The current Title V permit expires on May 7, 2030. *See* Title V Renewal Permit No. T089-46943-00121 dated May 7, 2025, at PDF 4.
[134] *See* Title V Renewal Permit No. T089-46943-00121 dated May 7, 2025, at TSD 31-37, PDF 1067-1073.
[135] *See* Title V Renewal Permit No. T089-46943-00121 dated May 7, 2025, at TSD 34, PDF 1070.
[136] *See* Title V Renewal Permit No. T089-46943-00121 dated May 7, 2025, at TSD 36, PDF 1072.

PM2.5. IDEM must revise the Draft Permit to include the CAM Plans (including the specific monitoring, recordkeeping, and reporting required by CAM) for *all* CAM applicable pollutant-specific emissions units.

XXII. Several Permit Conditions Failure to Adequately Assure Compliance with the Emissions Limits.

Title V permits must contain conditions "as are necessary to assure compliance with applicable requirements."[137] EPA has also explained that the enforceability of Title V permits must be "unambiguous"[138] and must allow IDEM, EPA, and the public to "take appropriate enforcement action" if its terms are exceeded.[139]

Here, the Draft Permit fails to include permit conditions that assure compliance with emissions limits, and the permit conditions are not properly enforceable. As one example, several permit terms require USS to take specific action, but do not impose a timeframe for USS to comply with that requirement. For example, Conditions D.15.13(a) and (b) require USS to install Continuous Emission Monitoring Systems (CEMS) for NOx at TBBH Boilers No. 6 and No. 7 but does not state when USS must install them. Additionally, Condition D.10.3 requires USS to shut down Nos. 1, 2, 3, and 4 reheat furnaces and Nos. 1 and 2 waste heat boilers in order to keep the net increase of PM below the PSD threshold but does not establish an enforceable deadline for USS to shut them down.

Additionally, several other permit terms fail to assure compliance with emissions limits, making enforceability questionable. For example:

- Compliance monitoring conditions that hinge on "normal" vs. "abnormal" visible emissions notations – Conditions D.6.10(a), D.7.15(a), D.8.12(a), D.9.10(a), D.14.5(a), D.18.7(a), D.22.7(a), D.29.9(a), D.30.7(a), D.37.5(a).

For many of these conditions, the normal vs. abnormal visible emissions notation is the only monitoring requirement in place to determine compliance with a numeric PM emissions limit or opacity limits. When limits are used to evade otherwise applicable requirements, the Title V permit must include sufficient terms that restrict the source from exceeding the applicable emission thresholds and accompanying testing, monitoring, recordkeeping, and reporting requirements to ensure compliance with and enforcement of those limits by regulators and citizens.[140] Here, the Draft Permit's use of normal vs. abnormal emissions fails to assure compliance with numeric

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137 40 C.F.R. § 70.6(a)(1); see also 326 IAC § 2-7-5(1)
138 *Tesoro Order* at 9.
139 *Pencor-Masada Order* at 7.
140 *See In the Matter of: Yuhaung Chemical Inc. Methanol Plant St. James parish, Louisiana Permit No. 2560-00295-V0*, Order on Petition No. VI-2015-03 (Aug. 31, 2016) p. 14.

emissions limits, including synthetic minor emissions limits required to prevent PSD from applying to this modification.

For example, Condition D.7.3 limits the PM, PM10, and PM2.5 emissions from the pneumatic unloading silo (DSIS1) to 0.043 lb/hr in order to render the major source PSD requirements of 326 IAC 2-2 not applicable to the 2026 Primary Modification (SSM No. 089-50605-00121). But the only monitoring requirement to assure compliance with this specific numeric PM limit is to record normal vs. abnormal visible emissions in Condition D.7.15(a). The Permit does not specify what are "normal" or "abnormal" emissions, which presents the same enforceability concerns identified for the "good" operating and combustion practices discussed in section XVIII.B above. Moreover, neither IDEM nor USS has provided any information to demonstrate how a "normal" visible emissions notation would correspond to the specific lb/hr PM limit necessary to avoid being subject to PSD. While the Draft Permit does require that the "pneumatic unloading silo bin vent filter shall be in operation at all times when the pneumatic unloading silo is in operation," this still does not assure compliance as IDEM and USS has not provided evidence that use of the bin vent filter in conjunction with the visible emissions notations will achieve the numeric PM emissions limit.

- Parametric monitoring conditions which state that "[f]ailure to take response steps shall be considered a deviation of this permit" – Conditions D.6.11(a), (d), (e), D.7.16(a), (b), D.8.13(a), (b), (c), (d), (e), D.9.11(a), (b), (c), D.22.8, D.30.8.

The Draft Permit requires USS to conduct parametric monitoring, such as recording daily pressure drops or flow rates at control devices, to determine if the parameter of control devices is within the normal range and operating properly. IDEM relies on this parametric monitoring to assure compliance with numeric emissions limits, including synthetic minor emissions limits required to prevent PSD from applying to this modification.

For example, Condition D.6.2 sets a tons-per-twelve-month-period PM limit for the "Recycle Plant" operations (Strands and Windbox (ISS10379 and ISS30381), Coolers (ISC10385 and ISC30387), Discharge End (ISS10379 and ISS0381) combined, which "shall limit the net emissions increase of PM to less than twenty-five (25) tons, PM10 to less than fifteen (15) tons, and PM2.5 to less than ten (10) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the 2026 Primary Modification (SSM No. 089-50605-00121)." These devices are controlled by baghouses and Condition D.6.11(b), (c), (d), (e) requires USS to record the daily pressure drop to determine if it is within the normal range for this unit. The only other requirements to assure that USS is complying with these numeric PM limits is a requirement to record normal vs. abnormal visible emissions notations and to test for PM once every 5 years. Given that, it is essential that the baghouses are operating properly to assure the emissions limits are being met.

But the Draft Permit allows the control devices to operate outside of their normal range; only the permittee's "failure to take response steps shall be considered a deviation of this permit." Section

C.16 of the Draft Permit defines "reasonable response steps" as restoring the control device to its normal or usual manner of operation "as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions."[141]

To assure compliance with these numeric limits, at bare minimum, IDEM must require that USS operate the control devices within their normal range. But the Draft Permit does not require this. Instead, it only requires USS to restore the control device to its normal manner of operation "as expeditiously as practicable," which could result in a control device not operating properly for extended periods of time and exceeding the numeric limit. But, because IDEM only requires parametric monitoring rather than continuous emissions monitoring, IDEM, EPA, and the public would be unable to determine whether USS has violated its emissions limit.

Further, these conditions raise concerns about enforceability. Because USS is required to record and report the parametric monitoring results, IDEM, EPA, and the public could determine whether the control devices are operating outside of their normal range. But it is much more difficult for regulators and the public to determine if USS has complied with the vague requirement to restore the control device to the normal range "as expeditiously as practicable."

Required Action 32: IDEM must revise Draft Permit Conditions D.15.13(b), D.10.3, and the visible emissions provisions in D.6.10(a), D.7.15(a), D.8.12(a), D.9.10(a), D.14.5(a), D.18.7(a), D.22.7(a), D.29.9(a), D.30.7(a), D.37.5(a), and the response steps provisions in D.6.11(a), (d), (e), D.7.16(a), (b), D.8.13(a), (b), (c), (d), (e), D.9.11(a), (b), (c), D.22.8, D.30.8 to assure compliance with the emissions limits as well as ensure enforceability of the permit terms.

XXIII. The facility improperly determined that CarbonFree is not part of the same major source.

IDEM found that U.S. Steel Gary Works and CarbonFree's SkyCycle facility "do not meet all three criteria of the major source definition and therefore the plants are not part of the same Part 70 major source."[142] IDEM correctly stated the test but misapplied it to the facts here. These two facilities are in fact part of the same major source and must permitted as such.

IDEM correctly lays out the relevant test:

> [i]n order for these plants to be considered as a major source under 326 IAC 2-7-1(20)(B) and (C), to be considered as a major source under 326 IAC 2-7-1(20)(B) and (C), all three of the following criteria must be met:
>
> (a) The plants must have common ownership and/or control;

[141] Section C.16(I)(a), Draft Permit at 50, PDF 56.
[142] TSD at 3.

> (b) The plants must have the same two-digit Standard Industrial Classification (SIC) Code or one must serve as a support facility to the other; and
> (c) The plants must be located on the same, contiguous or adjacent properties.[143]

The two facilities meet all three criteria.

The U.S. Steel – Gary Works steel mill and CarbonFree – SkyCycle facility are under common control.

There is a longstanding presumption of a common control relationship when one company locates on another's property.[144] CarbonFree's SkyCycle facility will be located on U.S. Steel's property.[145] Thus, CarbonFree and U.S. Steel are presumed to be under common control, and that presumption is difficult to overcome given the other indicators of common control at these facilities.
The Draft Permit applies a disjunctive two-prong test under which common control common exists if either prong is met.[146] The first test asks "[w]hether the plant's or facility's activity directly serves the purpose of a primary activity by supplying a necessary raw material to the primary activity or performing an integral part of the production process for the primary activity."[147]
The second test asks "whether the owner or operator of the primary activity has a major role in the day-to-day operations of the other plant's or facility activity."[148] Under this test, "day-to-day control... may be evidenced by several factors, including:

- Is a majority of the output of the plant or facility provided to the primary activity?
- Can the plant or facility contract to provide its products/services to a third-party without the consent of the primary activity?
- Can the primary activity assume control of the auxiliary activity under certain circumstances?
- Is the plant or facility required to complete periodic reports to the primary activity?"[149]

Importantly if any "one or a combination of these questions is answered affirmatively, common control may exist."[150]

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[143] *Id* at 1-2.
[144] Letter from Gregg M. Worley, Chief, Air Permits Section, EPA Region 4, to James Capp, Chief, Air Protection Branch, Georgia Department of Natural Resources at 2 (Dec. 16, 2011), https://www.epa.gov/sites/default/files/2015-07/documents/ps2011.pdf ("PowerSecure Common Control Determination").
[145] *See id* at 3.
[146] *Id* at 2-3.
[147] *Id* at 2.
[148] *Id*.
[149] *Id*.
[150] *Id*.

The second test is satisfied here. First, U.S. Steel has a major role in the day-to-day operations of CarbonFree. U.S. Steel will provide the two main inputs for CarbonFree's operation; IDEM specifically notes that "[t]he U.S. Steel facility will provide blast furnace gas and steel slag to the CarbonFree facility."[151] Without these inputs, CarbonFree would not have the fuel to run its MGO Hearth Furnace or PCC dryer,[152] and it would not have the raw materials, i.e. slag, to produce precipitated calcium carbonate ("PCC"). Therefore, without U.S. Steel, CarbonFree's facility would simply not be able to operate.

Second, the majority of CarbonFree's output is provided to U.S. Steel. IDEM incorrectly answers this question in the negative by noting that "[t]he PCC output from the CarbonFree facility is sent to third parties for sale on the open market and is not provided to U.S. Steel."[153] This statement ignores the fact that CarbonFree not only outputs PCC but also depleted slag and trucks up to 330,000 tons per year of it to U.S. Steel.[154] The CarbonFree Draft FESOP notes that the PCC dryer has a nominal rate of 15 tons per hour.[155] Even if CarbonFree's PCC dryer ran every hour of the year at the nominal rate, i.e. 15tph X 8,760 hours, the emissions unit would output 131,400 tons per year of PCC. This figure is well below the maximum depleted slag output, and it is assuming unrealistic production figures. Therefore, IDEM has no basis to claim that a "majority" of CarbonFree's output will be sold on the open market. In fact, it is more than likely that a majority of CarbonFree's output will be provided to U.S. Steel in the form of depleted slag.

Third, although not explicitly stated, CarbonFree is likely required to complete periodic reports to U.S. Steel given the interconnected nature of materials and activities. U.S. Steel is authorized to send 398,000 tpy of slag to CarbonFree and CarbonFree is authorized to send 330,000 tpy of depleted slag back to U.S. Steel.[156] Given these caps, the two parties almost certainly need to coordinate, with CarbonFree communicating how much slag it is receiving and how much depleted slag it is sending back to U.S. Steel. Similarly, because CarbonFree is taking BFG from U.S. Steel to run its operations,[157] the parties likely have to coordinate about how much BFG CarbonFree is using. IDEM may not assume that no such reporting occurs given the clearly interconnected relationship of the parties. IDEM must inquire into whether such reporting occurs and factor such information into its common control analysis.

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[151] *Id* at 2.
[152] IDEM, *Preliminary Findings Regarding a New Source Construction and Federally Enforceable State Operating Permit* (FESOP) *for Carbon Free in Lake County*, FESOP NO. F089-50044-00738, at TSD, App. A., pgs. 4-5 (Sept. 17, 2026) ("CarbonFree Draft FESOP")
[153] *Id*.
[154] *Id* at App. A, pg. 13.
[155] *Id.* Sec. A.2(b).
[156] *Id.* App. A, pg. 13.
[157] *Id.* TSD at 2.

Fourth, Draft Permit demonstrates that CarbonFree and U.S. Steel are Under Common Control. The Draft Permit indicates hot metal output will increase from 5,641,790 tpy to 6,674,199 tpy.[158] This increase comes with higher BFG usage, projected to be 103,725 mmcf/year.[159] The projected BFG flares usage is 41,280 mmcf/year.[160] The projected BFG boiler usage is 268,695 mmcf/year.[161] Of that total boiler usage, 22,160 mmcf/year of BFG is allocated to the new Boiler No. 7 unit.[162] Therefore, the total projected BFG usage between stoves, boilers, and flares is 413,800 mmcf/ton.[163] However, the 22,160 mmcf/year of BFG allocated for use in the new Boiler No. 7 will not be utilized in practice because it is restricted by U.S. Steel's own permit terms. Section D.15.4(b) states that "TBBH Boiler No. 7 (OTB60468) shall burn natural gas only until the date the requirements in 326 IAC 7-4.1-20 are revised."[164] Furthermore, every corresponding equation to document compliance for Boiler No. 7 is written with NG as an input.[165] The TSD appears to shift 15,979 mmcf/year of BFG usage from the original Boiler No. 7 allocation to flares.[166] Therefore, of the 22,160 mmcf/year originally allocated for Boiler No. 7, the U.S. Steel draft Title V permit does not account for 6,181 mmcf/year. The Draft FESOP establishes that U.S. Steel will be sending BFG to CarbonFree[167] and the amount of BFG unaccounted for in the Draft Permit is roughly the amount required by CarbonFree. CarbonFree emissions unit EP-01 utilizes 4779.066667 mmcf/yr[168] and EP-02A utilizes 1703.33MMscf/yr,[169] which is a total BFG usage of 6,482.396667 mmcf/yr. This figure is roughly the same as the unaccounted for BFG as explained above.

This BFG arrangement further shows common control: it is a prime example of "the owner or operator of the primary activity [playing a] major role in the day-to-day operations of the other plant's or facility activity."[170] CarbonFree plans to run on a combination of BFG and NG, but with a heavy reliance on BFG;[171] therefore, U.S. Steel plays a major role in the day-to-day operations of CarbonFree by providing such fuel to operate the core emissions unit which produces PCC.

CarbonFree maintains a support facility relationship with U.S. Steel.

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[158] U.S. Steel Draft Permit, TSD, App. A, pg. 86.
[159] *Id*.
[160] *Id*.
[161] *Id*.
[162] *Id*.
[163] *Id*.
[164] *Id*. Sec. D.15.4(b).
[165] *Id.* Sec. D.15.9.
[166] *Id.* TSD, App A., pg. 87.
[167] *Id*. TSD, pg. 2.
[168] CarbonFree Draft FESOP. App. A, pg. 4.
[169] *Id.* pg. 5.
[170] U.S Steel Draft Permit, TSD, pg. 2.
[171] CarbonFree Draft FESOP, App. A, pgs. 4-5 (where the BFG throughputs far outweigh the natural gas throughputs at the MGO Hearth Furnace and PCC Dryer.)

IDEM notes that "[a] plant is a support facility to another plant if it dedicates 50% or more of its output to the other plant."[172] CarbonFree's depleted slag output, which is likely a majority of the total output,[173] is sent back to U.S. Steel. Therefore, CarbonFree is a support facility for U.S. Steel.

CarbonFree and U.S. Steel are on the same property.

IDEM correctly identifies that "[t]he CarbonFree facility will be co-located on the same property that the U.S. Steel mill currently operates. The proposed CarbonFree facility is within the boundary of the U.S. Steel fenceline and therefore the plants meet the third criteria of the major source definition."[174] Based on the information provided above, U.S. Steel and CarbonFree appear to be a single stationary source.

Required Action 33: IDEM must reanalyze the aggregation test with the information discussed above, treat U.S. Steel and CarbonFree's SkyCycle facility as a single stationary source, and revise the Draft Permit as appropriate.

XXIV. IDEM must revise the Draft Permit to assure compliance with NESHAP and NSPS standards and requirements.

National Emission Standards for Hazardous Air Pollutants ("NESHAP") and New Source Performance Standards ("NSPS") are applicable requirements that must be incorporated into permits that have emissions units governed by those requirements. Title V permits should "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."[175] Further, the permit must "specify and reference the origin and authority for each term and condition, and identify any difference in form as compared to the applicable requirement upon which the term or condition is based."[176]

The Draft Permit, however, merely provides a table of the regulations containing the applicable NESHAP and/or NSPS requirements and attaches the entire NESHAP and/or NSPS, including inapplicable sections. Therefore, the Draft Permit fails to properly incorporate the NSPS and NESHAP requirements. While Commenters appreciate IDEM's tabularization of the applicable NSPS and NESHAP provisions (which provide some additional context to these requirements), this does not solve all the issues identified.

Furthermore, because IDEM splits the permit into separate sections for NESHAP and NSPS requirements versus other operating requirements, there is no single, comprehensive location to

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[172] U.S. Steel Draft Permit, TSD, pg. 3.
[173] CarbonFree Draft FESOP, *Compare* the depleted slag throughput at App. A, pg.13 *with the* PCC dryer nominal 15 tpy rate at Sec. A.2(b) indicating a maximum output of 131,400 tons per year of PCC.
[174] U.S. Steel Draft Permit, TSD, Pg. 3.
[175] 57 Fed. Reg. 32251 (July 21, 1992).
[176] 40 C.F.R. § 70.6(a)(1)(i).

reference for emissions limits/standards and monitoring, testing, recordkeeping, or reporting requirements that apply to each unit. This makes it difficult for the source to even attempt to determine the complete set of operating requirements for an emissions unit, let alone assure compliance with applicable requirements or allow the public to figure out what such compliance requires and whether Gary Works is achieving it. This frustrates the ability of the public, regulators, and the permittees to identify the full scope of applicable requirements for the source.

Required Action 34: IDEM must revise the Draft Permit and TSD emission unit descriptions to include sufficient information so that any reader of the permit can identify the applicable requirements of the source. IDEM should streamline the state operating, NESHAP, and NSPS requirements in the Draft Permit to clarify all the requirements that apply to any one emissions unit (which will also provide clarity on whether a violation of a permit term is also a violation of the NESHAP or NSPS).

XXV. The Draft Permit is missing the Preventive Maintenance Plan.

As the relevant permitting authority, IDEM must "ensure that the [T]itle V permit 'set[s] forth' monitoring to assure compliance with all applicable requirements."[177] "Applicable requirements" include, among other things, any requirements of a federally enforceable state implementation plan ("SIP") and any preconstruction requirements that are incorporated into the Title V permit.[178]

The Draft Permit fails to include all applicable requirements because it does not include Gary Works' facility-specific Preventive Maintenance Plan ("PMP").[179] The PMP is an applicable requirement. IDEM must revise the Draft Permit to include the PMP for three reasons:

- Because Gary Works is required to have a PMP under SIP-approved Indiana regulations at 326 IAC 1-6-3, the PMP's terms are "requirements provided for in the applicable implementation plan."[180] Because the Indiana SIP requires Gary Works to have and apply the PMP, IDEM must include it in the Renewal Permit under 40 C.F.R. § 70.6, which requires Title V permits to contain "[a]ll monitoring and analysis procedures or test methods under applicable monitoring and testing requirements."[181] EPA has already addressed this issue, stating that permitting authorities must ensure that monitoring and

[177] 42 U.S.C. § 7661c(c).
[178] 40 C.F.R. § 70.2 (definition at "applicable requirement" at (1) and (2)); *Pacific Coast Order* at 7 ("applicable requirements include the requirement to obtain preconstruction permits that comply with preconstruction review requirements under the Act, EPA regulations, and State Implementation Plans").
[179] Note: the Draft Permit variably refers to the PMP as either the Preventive Maintenance Plan or Preventative Maintenance Plan.
[180] 40 C.F.R. § 70.2 (definition at "applicable requirement" at (1)).
[181] 40 C.F.R. § 70.6(a)(3)(i)(A).

other compliance requirements "contained in applicable requirements are properly incorporated into the [T]itle V permit" under 40 C.F.R. § 70.6(a)(3)(i)(A).[182]

- Specific provisions of the Draft Permit, including Conditions D.22.4, D.29.5, and D.30.3, require Gary Works to comply with its PMP.[183] EPA found in the Oak Creek Title V Order that when "compliance with the approved [plan] is required" by the specific terms of a permit, "the plan must be included in the permit" under 40 C.F.R. § 70.6(1)(1).[184]
- The Permit must incorporate the PMP in order to make the provisions requiring compliance and implementation of the PMP enforceable as Title V requires.[185] Without identifying which emissions units require a PMP and including the specific requirements of these plans in the Permit, Conditions B.10(a), (b), and (c), D.22.4, D.29.5, and D.30.3 are unenforceable, because it is impossible for IDEM, EPA, and the public to determine whether Gary Works is complying with the requirements of the PMP, and, if not, to take appropriate enforcement action.

Required Action 35: IDEM must revise the Draft Permit to include the Preventive Maintenance Plans for the facility and the individual emissions units which require them.

XXVI. The Draft Permit is missing the Continuous Compliance Plan, Corrective Action Plan, and NESHAP Operation and Maintenance Plan.

Like the PMP, the Continuous Compliance Plan ("CCP"), Corrective Action Plan ("CAP"), and the Operation and Maintenance Plan ("O&M Plan") required under the NESHAP (collectively, "Plans") are also applicable requirements under Part 70 rules that must be incorporated into the Title V permit. In addition, the CCP, CAP, and O&M Plan are necessary to assure compliance with other applicable requirements in the Draft Permit.

Commenters have detailed this requirement extensively in previous comments and a pending petition to U.S. EPA.[186] First, Gary Works is required to have the CCP and CAP under SIP-

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[182] *In the Matter of Shell Deer Park Chemical Plant* (September 24, 2015), https://www.epa.gov/sites/default/files/2015-09/documents/dpr_response2014.pdf ("*Deer Park Order"*), at 18 (citing 40 C.F.R. § 70.6(a)(3)(i)(A, B), (c)(1).

[183] *See* Draft Permit at 149, 160, and 164.

[184] *In the Matter of WE Energies Oak Creek Power Plant, Permit No. 241007690-P-10* (June 12, 2009), https://www.epa.gov/sites/default/files/2015-09/documents/dpr_response2014.pdf ("*Oak Creek Order"*), at 26. *See also In the Matter of Columbia University,* Pet. No. II-2000-08 (Dec. 16, 2002), https://www.epa.gov/sites/default/files/2015-08/documents/columbia_university_decision2000.pdf ("*Columbia University Order*"), at 27 (noting where a facility is subject to a plan, the permit must "properly incorporate that plan.").

[185] 42 U.S.C. § 7661c(a).

[186] *See* Appendix A to Addendum to the Technical Support Document (ATSD) for a Part 70 Operating Permit Renewal for T089-46943-00121 (May 7, 2025), at PDF 961; Petition Requesting that the Administrator Object to the Issuance of Title V Permit No. T089-46943-00121 to the U.S. Steel – Gary Works Facility (July 3, 2025), at 47-56.

approved Indiana regulations at 326 IAC 6.8 and 326 IAC 8.187 And because the SIP requires Gary Works to have and apply these Plans, IDEM must include them in the Draft Permit under 40 C.F.R. § 70.6, which requires Title V permits to contain "[a]ll monitoring and analysis procedures or test methods required under applicable monitoring and testing requirements."188 Likewise, the O&M Plans are required under the federal NESHAP program and Subpart CCC specifically requires the O&M plan to be included in the Title V permit.189

Second, according to the U.S. EPA, IDEM must include these Plans in the permit because the Draft Permit requires Gary Works to comply with them.[190] For example, Conditions D.6.10(f), D.6.11(f), D.7.15(f), D.7.16(c), D.8.12(f), D.8.13(f), D.9.10(f), and D.9.11(d) require Gary Works to comply with the CCP and Condition C.12(a) requires Gary Works to "perform the inspections, monitoring and record keeping in accordance" with the CCP. Likewise, Condition D.6.13(d) requires Gary Works to "implement the corrective action plan" in the event of a VOC emissions exceedance.[191] Similarly, the specific NESHAP provisions incorporated at Conditions F.9.2, F.10.2(6), and F.15.2(47) require Gary Works to develop and implement the O&M plans.[192] Accordingly, the CPP, CAP, and O&M Plans are requirements applicable to Gary Works that must be included in the Permit under the Part 70 rules.

Third, the Plans must be included in the Permit to make the provisions requiring compliance and implementation of the Plans enforceable against Gary Works. Title V requires enforceable permit terms.[193] Without including the specific requirements of these Plans in the Draft Permit, Conditions C.12(a), D.6.10(f), D.6.11(f), D.7.15(f), D.7.16(c), D.8.12(f), D.8.13(f), D.9.10(f), and D.9.11(d) (for the CCP), Conditions D.6.13(d) and D.6.16(d)(1)(A)(v) (for the CAP), and Conditions F.9.2, F.10.2(6), and F.15.2(47) (for the O&M Plans) are unenforceable, because it is impossible for IDEM, EPA, and citizens alike to determine whether Gary Works is complying with the requirements of the Plans and, if not, to take appropriate enforcement action.[194]

Required Action 36: IDEM must revise the Draft Permit to include the Continuous Compliance Plan, the Corrective Action Plan, and the Operation and Maintenance plans required under the NESHAP rules applicable to the facility.

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187 71 Fed. Reg. 14383 (March 22, 2006) and 73 Fed. Reg. 23356 (April 30, 2008) (SIP approvals requiring a CCP), and 65 Fed. Reg. 41350 (July 5, 2000) (SIP Approval requiring a CAP).
188 40 C.F.R. § 70.6(a)(3)(i)(A).
189 40 C.F.R. § 63.1160(b).
190 *See* In the Matter of WE Energies Oak Creek Power Plant, Permit No. 241007690-P-10 (June 12, 2009), https://www.epa.gov/sites/default/files/2015-08/documents/oak_creek_decision2007.pdf ("Oak Creek Order"), at 26. See also In the Matter of Columbia University, Pet. NO. II-2000-08 (Dec. 16, 2002), https://www.epa.gov/sites/default/files/2015-08/documents/columbia_university_decision2000.pdf ("Columbia University Order"), at 27 (noting where a facility is subject to a plan, the permit must "properly incorporate that plan").
191 Draft Permit at 72.
192 *See* 40 C.F.R. § 63.7800, 40 C.F.R. § 63.1160(b), and Table 3 to 40 C.F.R. § 63, Subpart GGGGG.
193 42 U.S.C. § 7661c(a).
194 Pencor-Masada Order, at 7.

XXVII. The Draft Permit is missing the Fugitive Dust Control Plan

As with the Plans listed above, the Fugitive Dust Control Plan ("FDCP") is an applicable requirement, required by the NSPS, that must be incorporated into the Title V permit. First, Gary Works is required to have the FDCP under Indiana regulations at 326 IAC 6-5. Second, IDEM must include the FDCP in the permit because the Draft Permit requires Gary Works to comply with it at Conditions C.5, D.16.1, D.16.2(b), D.22.2, D.28.1(e), D.29.1, D.29.2, D.29.3, D.29.8, and D.30.1. While the conditions listed under section D are fugitive dust sources such as roads, or coal, coke, and ore handling and screening, Condition C.5 is used to determine source-wide opacity standard compliance. Third, IDEM must include the FDCP to align with Title V requirements for enforceable permit terms. Without including the specific requirements of this plan in the Draft Permit, Conditions C.5, D.16.1, D.16.2(b), D.22.2, D.28.1(e), D.29.1, D.29.2, D.29.3, D.29.8, and D.30.1 are unenforceable. IDEM's failure to include the FDCP is particularly egregious here, where compliance with many of these conditions (including D.22.2, D.29.1, D.29.2, D.29.3, and D.30.1) is specifically used to avoid meeting PSD and/or NNSR thresholds and the FDCP is identified as Attachment A to the Draft Permit. Furthermore, as an integrated iron and steel mill, Gary Works' fugitive dust emissions are to be included in determinations for PSD and NNSR and yet do not seem to be included in any of the emissions calculations included with the Draft Permit.

Required Action 37: IDEM must revise the Draft Permit to include the Fugitive Dust Control Plan and must explain how USS has included fugitive dust in its emissions calculations, including those that used to determine whether criteria pollutants will or will not exceed the threshold for PSD/NNSR for the new and modified emissions units.

XXVIII. The TSD for the SPM should explain the operating requirements for all of the emissions units.

The Draft Permit covers two separate permitting actions. The PSD/SSM is the pre-construction permit which authorizes the construction, installation, or physical alteration of the new and modified emissions units, whereas the SPM authorizes operating the new and modified emissions units as a revision to the facility's Title V operating permit and adds new emission limits, monitoring, recordkeeping, and reporting requirements as operating conditions for these new and modified emissions units. The SPM thus incorporates all operating conditions of both the existing and new and modified units. The TSD should do the same so that the source, the regulators, and the public all understand how the entire source operates and the cumulative impact of the modification decisions on the entire source.

In short, because SPM No. 089-50609-00121 is incorporating the operating requirements for the modifications of SSM No. 089-50605-00121 into the entire source's Title V permit, the TSD for SPM No. 089-50609-00121 should be all-inclusive and, therefore, IDEM must identify and list the operating conditions for *all* of the emissions units.

However, the TSD fails to include the operating conditions for several of the sinter plant emissions units. Specifically, the Summary of Testing Requirements chart in the TSD fails to include the sinter plant ("recycle plant") Windbox Gas Cleaning Systems stacks which are required to be tested every 2.5 years for SO2 per Condition D.6.6(d) and under 40 C.F.R. 63, Subpart FFFFF.[195] Additionally, the TSD only lists a new emissions unit, TBBH Boiler No. 7, identified as OTB60468, as having CEMS for NOx.[196] However, the description for the TBBH Boiler No. 6 identifies it as having CEMS for NOx as well.[197] Additionally, the sinter plant ("recycle plant") Windbox Gas Cleaning Systems stacks, IS6198 and IS6199, have CEMS for VOC[198] and, according to Appendix A of the TSD, the No. 4 Boiler House has CEMS for NOx also, although the Draft Permit does not include it in the emissions unit description for No. 4 Boiler House and its associated Boilers 1-3.[199] In fact, the emissions calculations worksheets in Appendix A list "No. 4 BH 1, 2 CEMS" and/or just "Boiler CEMS" for multiple emissions units, including TBBH Boilers 1, 2, 3, 5, 6, and 7, as well as No. 4 Boiler House Boilers 1, 2, 3, No. 1 and 2 BFG Flare Stacks, and No. 4 BFG Flare Stack.[200] Meanwhile, USS quarterly reporting suggests that there are CEMS on all three No. 4 Boiler House boilers.201 This further brings into question what the "No. 4 BH 1, 2 CEMS" means in the emissions calculations data, especially insofar as it is used to calculate whether pollutants will or will not exceed PSD/NNSR thresholds for the new and modified units. IDEM fails to explain any of these discrepancies in the TSD, and because IDEM leaves out other emissions units from the CEMS/COMS section of the TSD, it is unclear whether it is an oversight or whether the emissions calculations pages are misrepresenting how the facility operates.

Required Action 38: IDEM must ensure that all operating terms and conditions for the Draft Permit are explained and reflected in the TSD, including identifying the full scope of testing requirements and which emissions units operate with CEMS/COMS at the facility. Furthermore, IDEM must require USS Steel to clarify the source of the NOx emissions calculations that are labeled "No. 4 BH 1, 2".

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[195] *See* TSD at 54-55, PDF 359-360. *See also* 40 C.F.R. § 63.7821(b) (for "each emissions unit equipped with a control device other than a baghouse, you must conduct subsequent performance tests no less frequently than twice (at mid-term and renewal) during each term of your title V permit"). The Windbox Gas Cleaning Systems are comprised of a Quench Reactor, Dry Venturi Scrubber, and a baghouse operated in series. *See* Draft Permit at 15.

[196] TSD at 55, PDF 360.

[197] *See also* Condition D.15.13(a) which requires USS to install CEMS for NOx, although the description of Boiler No. 6, identified as OTB60467, already included CEMS for NOx at Stack OT6276 in the May 7, 2025, Permit.

[198] Draft Permit at 15.

[199] *See* Draft Permit at 24 and 115.

[200] *See* TSD Appendix A at 10, 14, 18, and 22, PDF 432, 436, 440, and 444 (listing "No. 4 BH 1, 2 CEMS" across from NOx and under the BFG column).

[201] *See e.g.,* Second (2nd) Quarter 2026 Reports Operation Permit No. T089-00121, U.S. Steel- Gary Works 1, 38-45 (July 30, 2026), https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83989227&dDocName=83997353&Rendition=web&allowInterrupt=1&noSaveAs=1 (listing NOx CEMS data separately for each boiler).

XXIX. IDEM failed to ensure adequate public participation on the Draft Permit.

Commenters requested, and were denied, a public meeting on this permit as well as an extension to the comment period. As Commenters noted in their oral comments at the Public Hearing, this is not only disappointing, but completely inappropriate. This is an incredibly complex permit with modifications that will lock in pollution increases for the lifetime of these new and modified units. IDEM should have granted the public the opportunity to ask questions about these modifications and how the Draft Permit provisions will ensure that there will not be an increased pollution burden on the community. Additionally, IDEM should have granted the public the time necessary to fully digest these permits, the duplicate applications, and the hundreds of pages of emissions calculations, and develop comments in full.

Because IDEM refused these reasonable requests and yet Commenters were still able to identify the numerous errors included here, Commenters have every reason to believe they would identify additional errors in the Draft Permit if provided adequate time for review.

Required Action 39: IDEM must thoroughly review each calculation for every unit, baseline, projection, and capable of accommodating exclusion to confirm that they comply with the Clean Air Act and the Indiana SIP given the high number of errors identified here.

Required Action 40: Because of the number and severity of the errors and deficiencies Commenters found throughout this Draft Permit, IDEM must reissue a revised Draft Permit, with an accompanying updated TSD and emissions calculations, for public comment before issuing any final permit to U.S. Steel authorizing the projects at Gary Works.

XXX. IDEM should clarify or correct likely clerical errors in the Draft Permit.

Clerical errors, even when inadvertent, can obfuscate permit terms and conditions and/or prevent enforceability.

Required Action 41: IDEM should correct, or else explain, the following likely clerical errors:

- The Draft Approval Letter for construction of the PSD/SSM states that the three NG-fired walking beam furnaces at the Hot Rolling Mill will have "[CEMS] for NOx on the stack."[202] Neither the Draft Permit nor TSD has any reference to CEMS for these new emission units.
- Condition D.6.9 states that the PM emissions factor EFc should be based on the "latest compliance stack test for the Cooler exhaust stacks (IS6203 and IS6205) and the new Cooler Baghouse stack."[203] IDEM should add in the proper emissions unit description (ISC-BH) to clarify what is means by "Cooler Baghouse stack."

[202] Draft Permit Approval Letter at 4, PDF 8.
[203] Draft Permit pg. 68-69, pdf pg. 74-75.

- The Summary of Testing Requirements chart in the TSD lists the sinter plant ("recycle plant") Cooler Stacks (ISC 10385 and ISC 30387) as requiring testing for PM, PM10, and PM2.5 every 5 years.[204] However, these units are required to test for PM10 every 2.5 years.[205]
- The TSD states that the Continuous Compliance Plan was submitted in 1993. Besides providing this plan (as discussed in Section XXVI above), IDEM should clarify whether USS has provided updates to this plan, as this plan is essential to assure continuous compliance with emissions limits at the Sinter Plant ("recycle plant"), Blast Furnaces, Number One Basic Oxygen Process (BOP) Shop, and Number Two Q-BOP Shop, several of which have undergone modifications since 1993, including in this permit action.
- Only Attachment S is included with the Draft Permit, preventing Commenters from reviewing and commenting on Attachment A, the Fugitive Dust Control Plan (discussed above in Section XXVII) and Attachment Q, the Fuel Sampling and Analysis Protocol.

Summary and Conclusion

Without the above changes, the Draft Permit fails to assure compliance with NSR and Title V regulations. Because of the serious and extensive revisions required for the Draft Permit and the importance of ensuring that the modifications at Gary Works are appropriately analyzed for BACT under PSD regulations and LAER under NNSR, IDEM must reissue the revised Draft Permit for public comment prior to issuance of any final permit authorizing these projects.

Thank you for considering these comments. Please feel free to reach out with any questions or if you need additional information.

Sincerely,

/s/ Rob Michaels

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[204] *See* TSD at 54, PDF 359.
[205] Draft Permit at 66-67, Condition D.6.6(c).



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